



an ISO 9001 : 2015 Certified Company

PROJECT REPORT ON NETWORKING

Under Supervision

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SUBMITTED BY

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Acknowledgement

- I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations.
- I would like to extend my sincere thanks to all of them.
- I am highly indebted to Netcamp Solutions Pvt. Ltd. For their guidance and constant supervision as well as for providing necessary information regarding the project and also for their support in completing the project.
- I would like to express my gratitude toward Mr. Santu Purkait, Director: Netcamp Solutions Pvt. Ltd. For their kind co-operation and encouragement which help me in completion of this project.
- I would like to express my special gratitude and thanks to organization persons for giving me such attention and time.
- My thanks and appreciations also go to my colleagues in developing the project and people who have willingly helped me out with their abilities.

Name: Bikki Singha

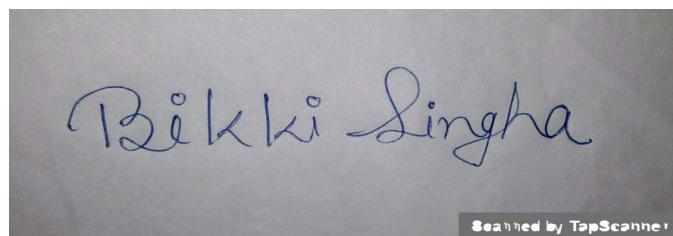
Roll No: BTECH/10661/18

Branch: Computer Science and Engineering(CSE)

College: Birla Institute of Technology Mersa, Ranchi

Date: 22-06-2021

Signature:



Certificate in Network Management and Web Development



NSPL/22/21/279

This is to certify that

Bikki Singha

**has demonstrated an understanding of
the solutions and technologies covered in
the Network Management and Web
Development course and has successfully
completed the training programme held
during 15 th May, 2021 – 7th July 2021**

A handwritten signature in black ink that reads "SANTU PURKAIT".

**Santu Purkait
Director
Netcamp Solutions Private Limited**

INDEX

Acknowledgment	2
Certificate.....	3
Table of Contents.....	4
Problem Statement.....	5 – 7
Software Used.....	8
Red Hat Linux Server and Windows XP Configuration.....	9 - 11
DNS Server Configuration.....	12 – 19
DNS Forwarding.....	20 - 21
Apache Webserver Configuration.....	23 - 26
Mail Server Configuration.....	27
DHCP Server Configuration.....	28 - 34
Send Mail Configuration.....	35 - 36
IMAP/POP3 Server Configuration.....	37
Network Configuration.....	38
Adding Users.....	38 – 40
Webmail.....	41 - 43
Partitions on Local Disks.....	44 - 46
Disk and Network Filesystems.....	47 - 48
Disk Quota Management.....	49
Samba Windows File Sharing.....	50 - 56
Mail Logo Change	57 - 63
Linux Firewall.....	64 - 66

Problem Statement

Consider yourself a Final year Engineering student, who will be passing out in July 2021. Year 2020 was a bad year in terms of job or job market, with the global slow down and recession the prospect of a 5 figure Salary Cheque is a mirage for the students passing out in year 2021. Your college authorities with the help of your college alumni association has lined up few off-campus placement drives, but none of them will give the amount of salary you were looking for in the year 2021.

Meantime in your summer break some of you joined a networking course offered by Netcamp. The course was for 30 days. The basic idea for joining the course was going away from the mad - mad world for 30 days.

Though the idea was FUN and MASTI, you liked the course and learned how to setup a network infrastructure which can be a basic platform for any e-Business.

After completing the course you decided, enough is enough no more searching for jobs, you will start your own company which will provide e-Business and e-Service solutions to the various small companies across the Country.

On a last day of the training program, during your tea break (in the mess) you proposed your idea to all of your group members of your group. You were overwhelmed with the support and their willingness to join your new venture. All wanted to leave their own mark - idea was to be a "JOB Maker - Not a JOB Seeker".

You all decided to start, the company name will be the group name that you had in Netcamp. You decided to start the web services first so you can display your product lines on the web as well as communicate with your future customers.

The Owner of Netcamp was very happy with your initiation, he agreed to give you a loan of Rs. 10,00,000/- (Rupees ten lac only) as your starting capital. Infact he was so happy that some of his students are willing to take the path which he has taken some 15 years before, he gave the loan at meager 4% annual interest (where

the business loan is anything about 9% + from any reputed bank in India)

You bought the following items to start your Company and plan to inaugurate the portal by 9am 1st August 2020. (very little time left – but you are motivated to go ahead and – confident you will be ready by then)

- a) Rented a space to use it as office and keep your servers
- b) 2 Red Hat Linux Enterprise server. With plenty of memory and storage space
- c) 2 live IP address
- d) 32Mbps internet connection from ISP
- e) A domain name as netcamp.in

After a group meeting you decided to do the following and get it going.

Create one web server which will host all the web sites for the Company (netcamp.in)

Create one DNS server (which is same as your web server).

Create one mailing server which will provide the email service for the Institution / Company (mail.netcamp.in – and should be able to access from web). Mail server should have POP3 support so user can download email in their own laptop/desktop. (Please customize the mail page with your own company logo and company name)

The mail server will be the file server which will have file storage space for the user.

File server will also have a dhcp server (range of ips =192.168.1.150 to 192.168.1.190 gateway=192.168.1.1 and dns server = give your dns server) so that it can give ip address to all client machines.

Implement samba on your file server so it can be accessed from a windows machine.

You were 4/5 in your group you decided that you will be the Chairman of the company and will have access to all the files / folders in your company. You created three departments – Sales, RandD and Accounts. Please divide the group members in all these groups. For the file management you decided about the following points.

Create a new partition where you will mount a folder called chairman and enable quota only for the chairman user for 200 mb.

Email address

username@netcamp.in

company.in (should also open as www.netcamp.in)

sales.company.in

research.company.in

accounts.company.in

mail.company.in

Common data folder for user (only departmental access – only the department people can read and write on the same) (samba share)

/departmentname/data

Common driver folder for the user (only departmental access – only access (r-x) but they can't write on the same) (samba share)

/departmentname/driver

Please make a note, chairman will have full access on these folder called data and driver; and he can also upload files and the folders through samba also.

In your locality there are 8 other companies, please make sure they can view your web page as well send email to you and other employees of your company.

You should also view others domain and send mail to them

Please design and implement the same.

Please note ISP will give the public ip address only after a week so, all job has to be done with private ip address only [speak to Santu Sir] for the same.

Firewall :: Please use firewall in your server make sure that telnet, ftp and ssh is not allowed from outside the network (allow only to your group members ip only)

Software Used

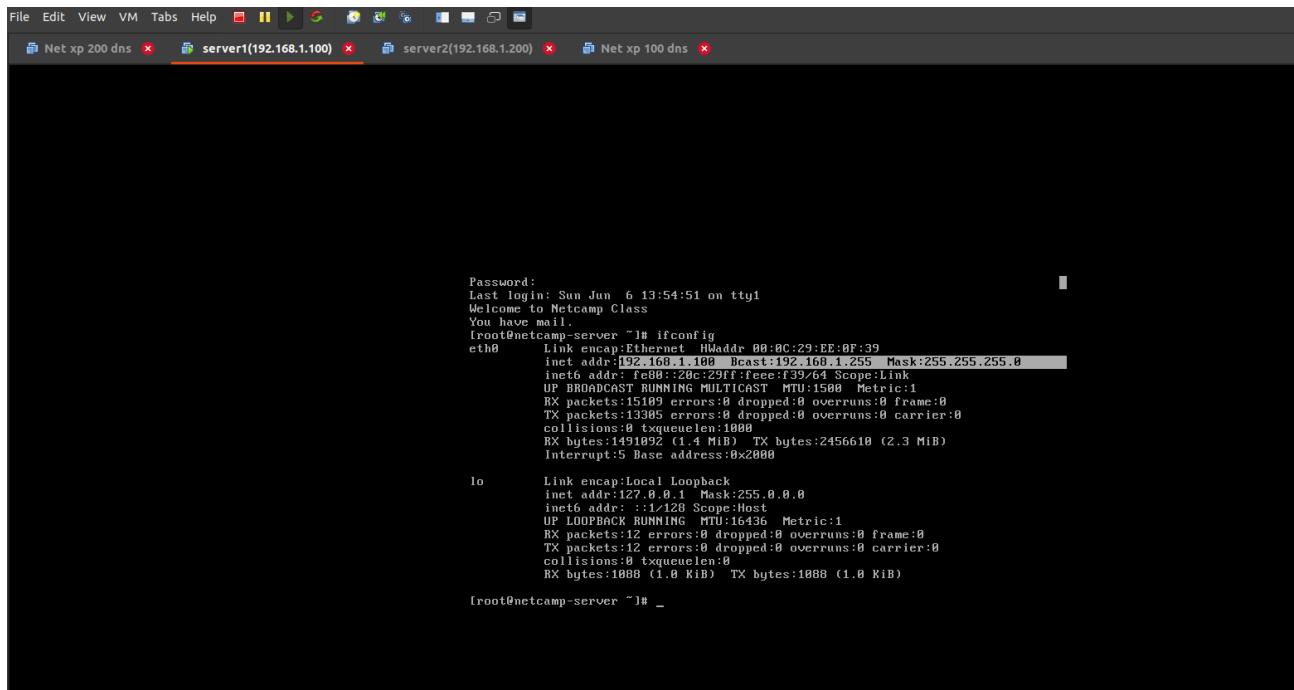
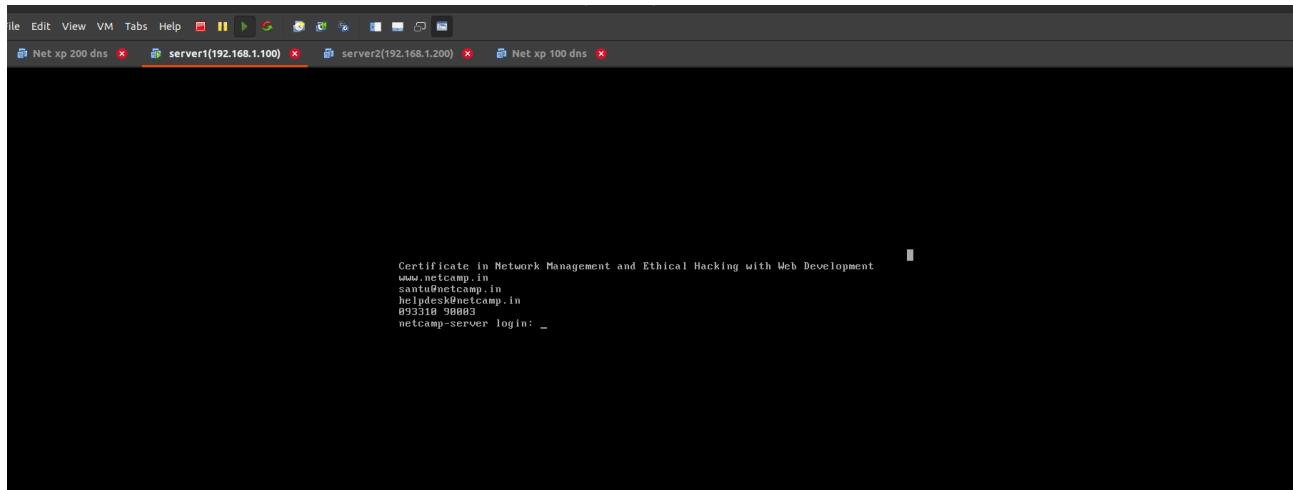
- [1] Two Red Hat Enterprise Linux Server**
- [2] Windows XP**
- [3] Ubuntu 20.04(HOST)**
- [4] Webmin**
- [5] VMWare Workstation Pro**

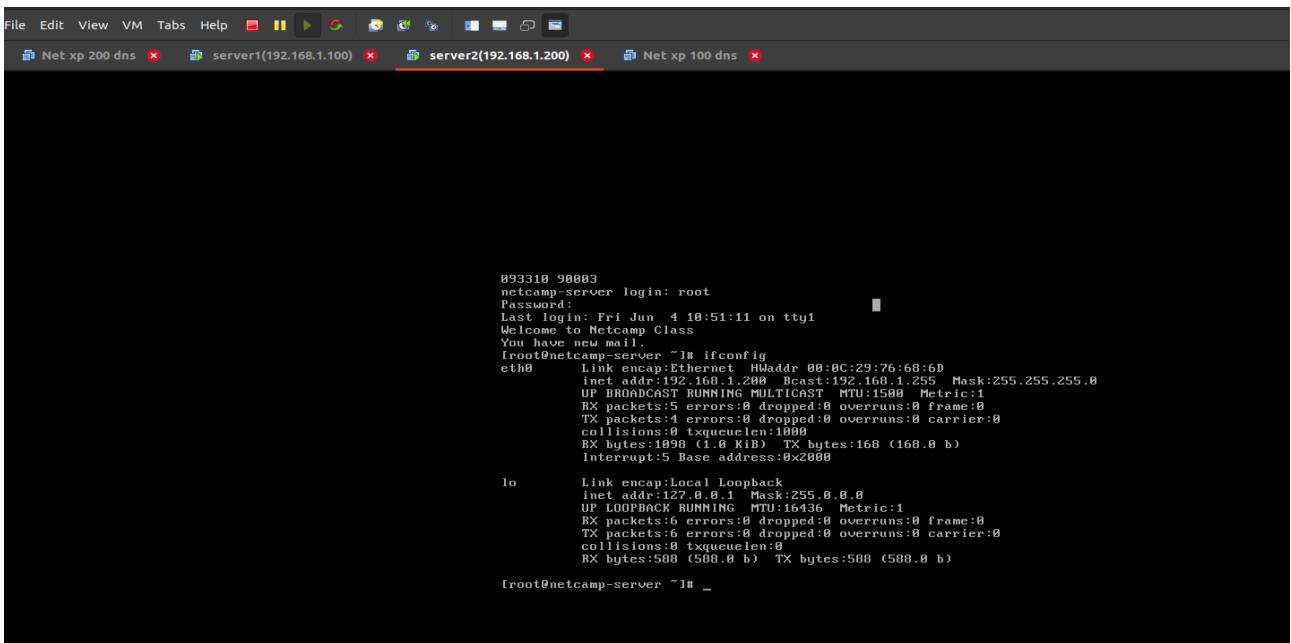
Red Hat Enterprise Linux Server and Windows XP Configuration

In VMWare Workstation pro we Installed two Red Hat Linux server and two Windows XP.

In First Linux server we set IP 192.168.1.100, Subnet 255.255.255.0 and Second server IP 192.168.1.200, Subnet 255.255.255.0. In XP we give IP 192.168.1.150 and DNS 192.168.1.100.

We could login into the server using root as well as other users created by the root.





```

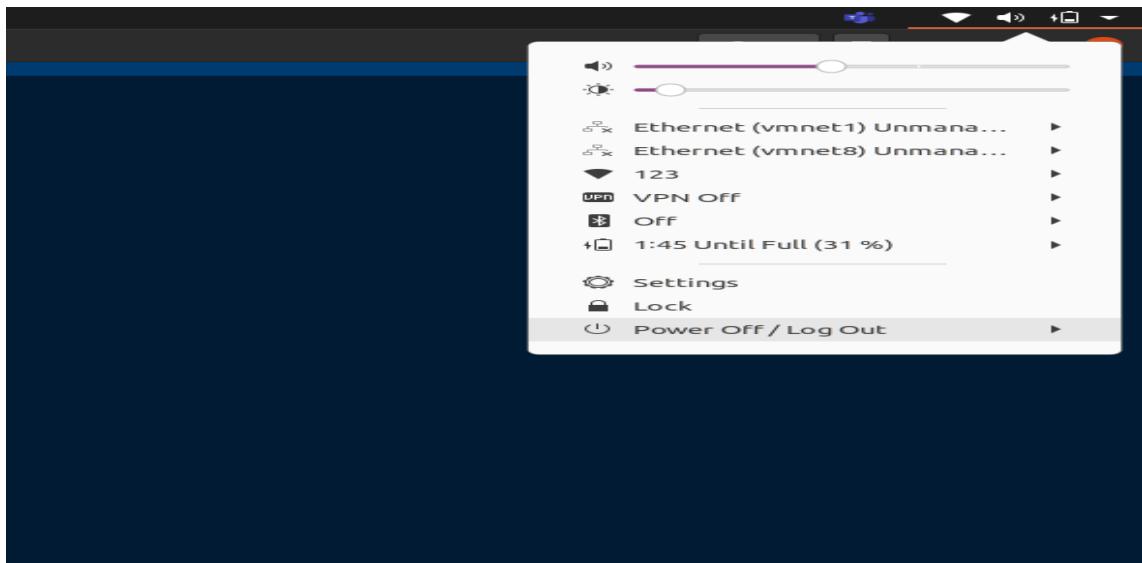
093310 980003
netcamp-server login: root
Password:
Last login: Fri Jun 4 10:51:11 on ttys1
Welcome to Netcamp Class
You have new mail.
[root@netcamp-server ~]# ifconfig
eth0      Link encap:Ethernet HWaddr 00:0C:29:76:6B:6D
          inet addr:192.168.1.200 Bcast:192.168.1.255 Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
          RX packets:5 errors:0 dropped:0 overruns:0 frame:0
          TX packets:4 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:1098 (1.0 KIB) TX bytes:160 (160.0 b)
          Interrupt:5 Base address:0x2000

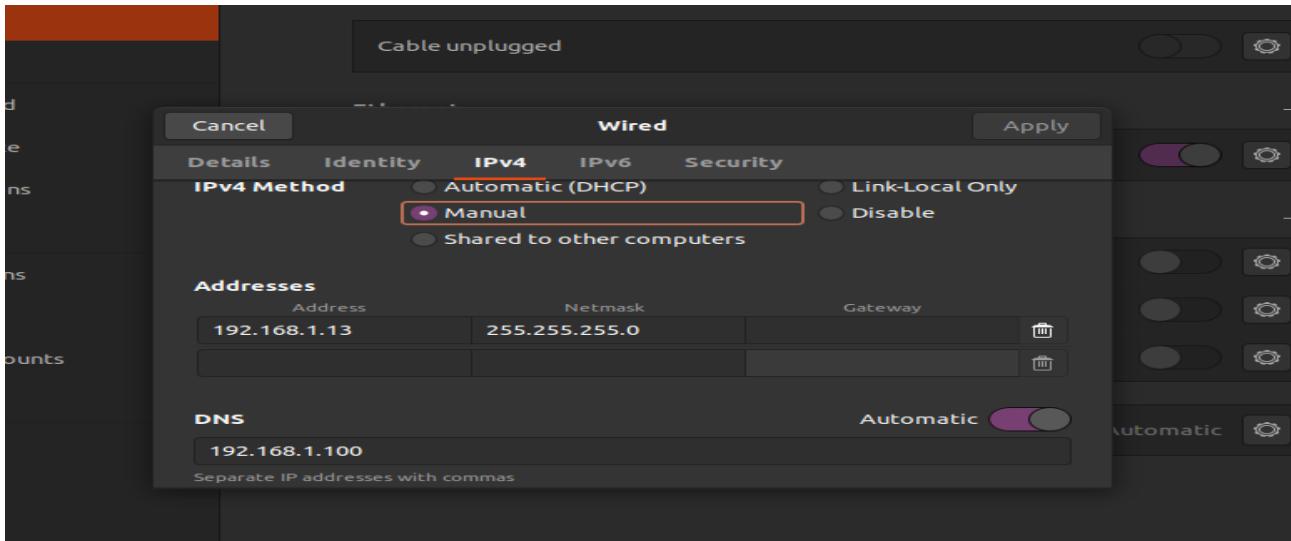
lo      Link encap:Local Loopback
          inet addr:127.0.0.1 Mask:255.0.0.0
          UP LOOPBACK RUNNING MTU:16436 Metric:1
          RX packets:6 errors:0 dropped:0 overruns:0 frame:0
          TX packets:6 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:588 (588.0 b) TX bytes:588 (588.0 b)

[root@netcamp-server ~]# 

```

To connect our server to HOST system we used **vmnet1**.**vmnet1** is a Host-Only network mode, which is used to establish an isolated network environment, where **vmnet1** is also a virtual switch, one port of the switch is connected to your Host, and the other port is connected to the virtual On the DHCP server (actually a component of vmware), the remaining port is connected to the virtual machine. In **vmnet1** first we have to give same class, same network but different IP address which we used in linux servers.





One other way to enter the server is by using **telnet** in our system using which we can directly enter Linux server from **Terminal/command prompt**.

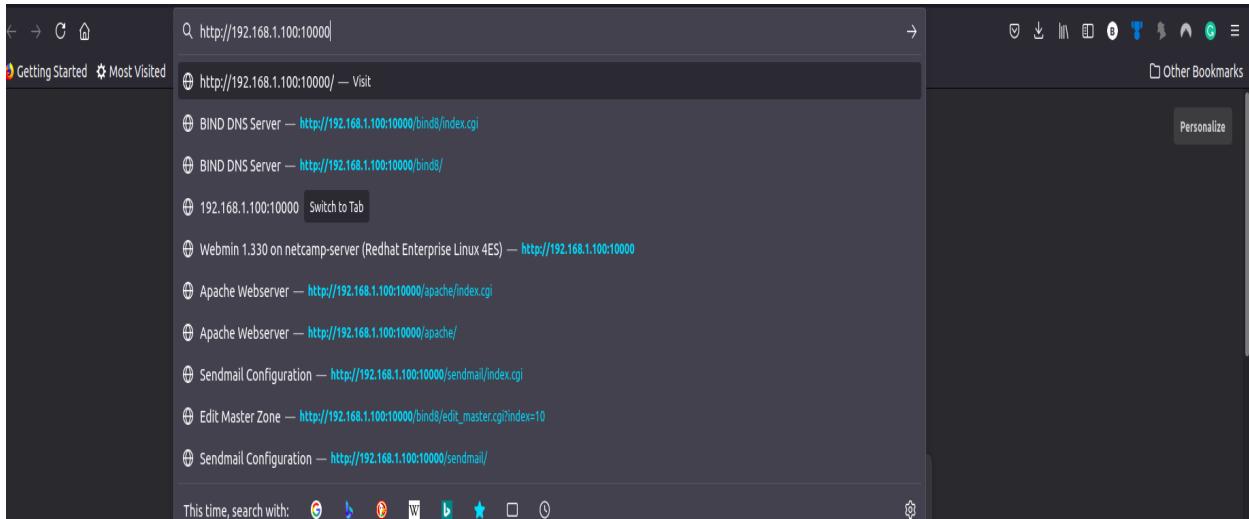
Telnet is a protocol that allows you to connect to remote computers (called hosts) over a TCP/IP network (such as the internet). ... Once your **telnet** client establishes a connection to the remote host, your client becomes a virtual terminal, allowing you to communicate with the remote host from your computer.

But in **telnet** we can't enter as root user. To enter as root user we need to first enter as a normal user then use the command “**su -**” to become the super user.

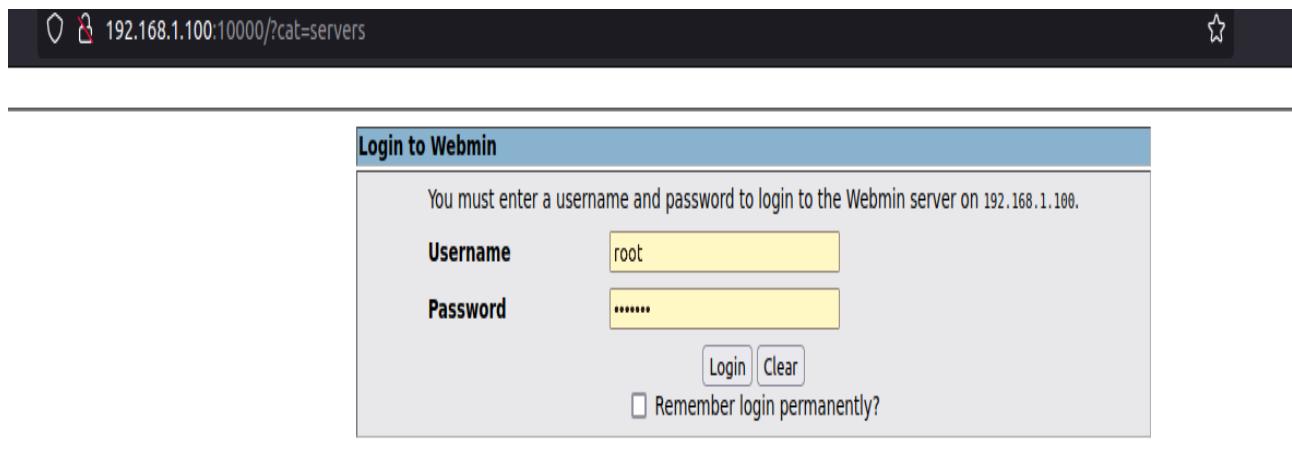
```
btkki@btkki:~$ telnet 192.168.1.200
Trying 192.168.1.200...
Connected to 192.168.1.200.
Escape character is '[']'.
Certificate in Network Management and Ethical Hacking with Web Development
www.netcamp.in
santu@netcamp.in
helpdesk@netcamp.in
093310 90003
login: netcamp
Password:
Last login: Fri Jun  4 03:57:34 on tty1
Welcome to Netcamp Class
[netcamp@netcamp-server ~]$ pwd
/home/netcamp
[netcamp@netcamp-server ~]$ su -
Password:
[root@netcamp-server ~]# pwd
/root
[root@netcamp-server ~]#
```

DNS Server Configuration

For creating DNS, Webserver and Mail Server we had to use **Webmin** which works on port no. 10000 of the servers we were using. In order to open **webmin** one must enter the command in browser **http://192.168.1.100:10000** (which is DNS server + port number of Webmin).

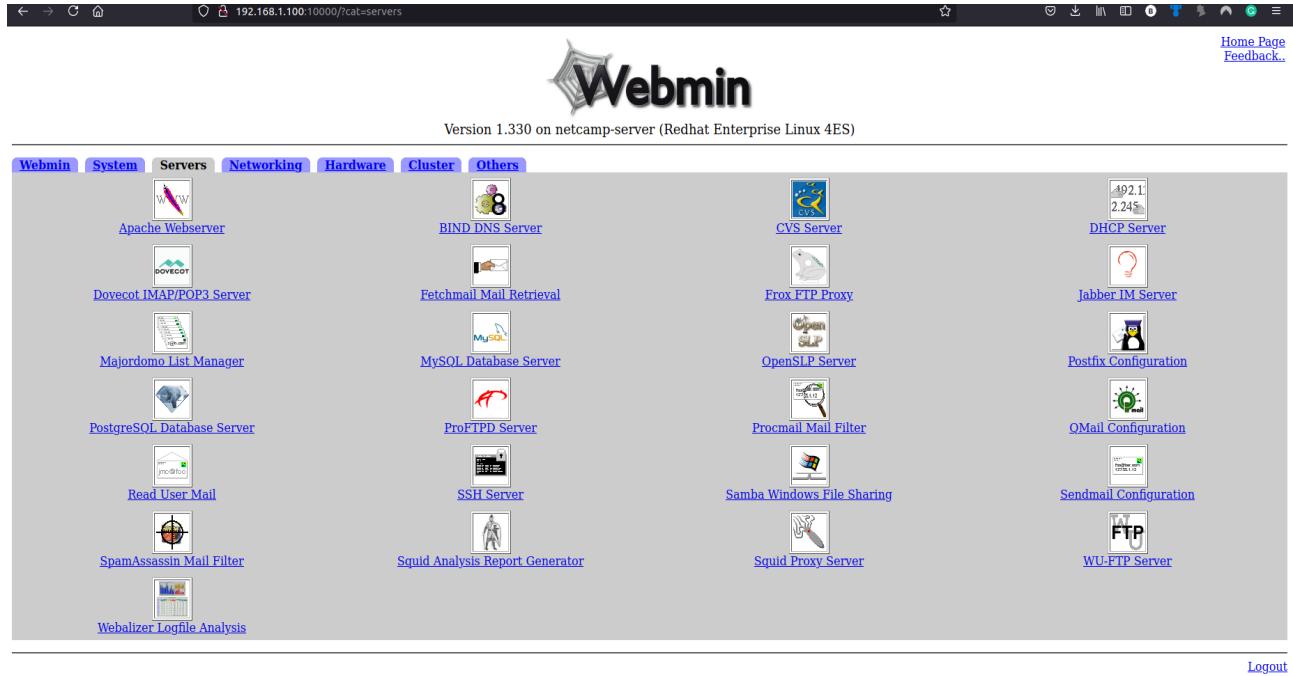


After enter you can see a login window.



Webmin is a web-based interface for system administration for Unix. Using any modern web browser, you can setup user accounts, Apache, DNS, Samba, mail, DHCP, file sharing and much more.

In webmin >> Go to **servers** then select BIND DNS Server



Webmin Version 1.330 on netcamp-server (Redhat Enterprise Linux 4ES)

Webmin System Servers Networking Hardware Cluster Others

Apache Webserver BIND DNS Server CVS Server DHCP Server

Dovecot IMAP/POP3 Server Fetchmail Mail Retrieval Prox FTP Proxy Jabber IM Server

Majordomo List Manager MySQL Database Server OpenSLP Server Postfix Configuration

PostgreSQL Database Server ProFTPD Server Procmail Mail Filter OMail Configuration

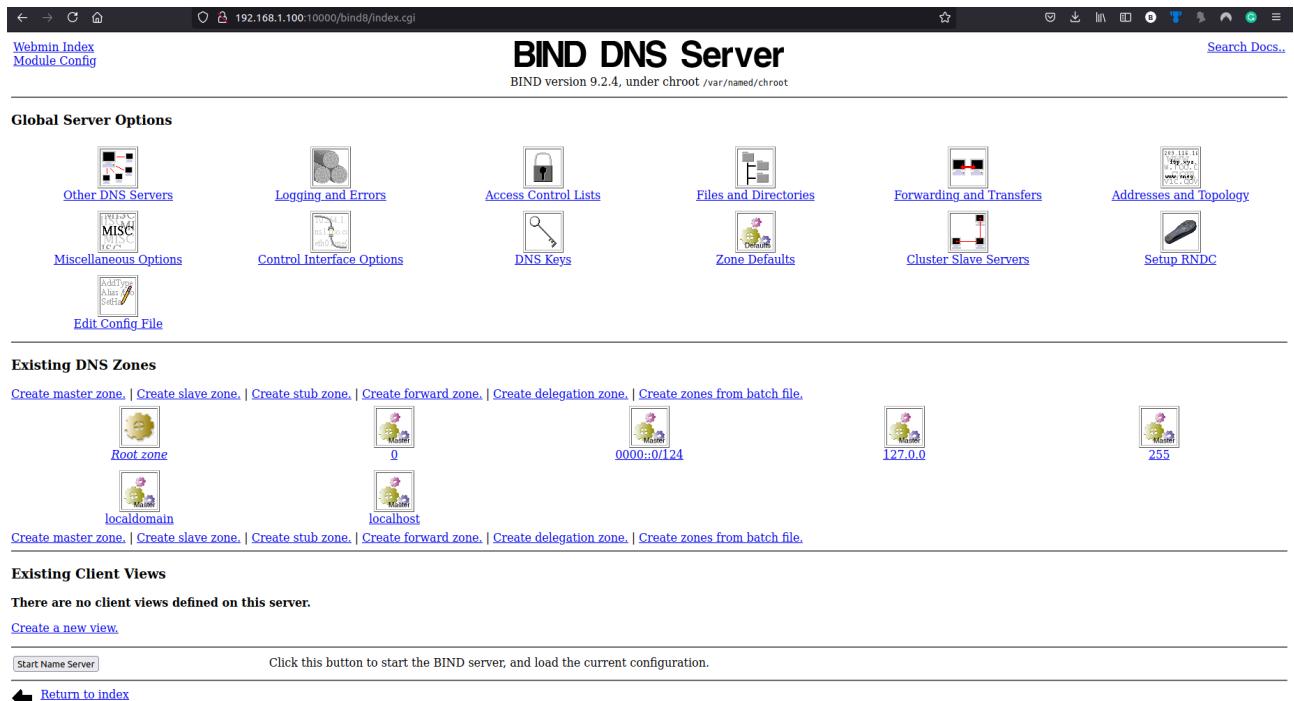
Read User Mail SSH Server Samba Windows File Sharing Sendmail Configuration

SpamAssassin Mail Filter Squid Analysis Report Generator Squid Proxy Server WU-FTP Server

Webalizer Logfile Analysis

Logout

In BIND DNS Server click Create master zone



192.168.1.100:10000/bind8/index.cgi

Webmin Index Module Config Search Docs..

BIND DNS Server

BIND version 9.2.4, under chroot /var/named/chroot

Global Server Options

Other DNS Servers Logging and Errors Access Control Lists Files and Directories Forwarding and Transfers Addresses and Topology

Miscellaneous Options Control Interface Options DNS Keys Zone Defaults Cluster Slave Servers Setup RNDC

Edit Config File

Existing DNS Zones

Create master zone | Create slave zone | Create stub zone | Create forward zone | Create delegation zone | Create zones from batch file.

Root zone 0 0000::0/124 127.0.0.1 255

localhost

Create master zone | Create slave zone | Create stub zone | Create forward zone | Create delegation zone | Create zones from batch file.

Existing Client Views

There are no client views defined on this server.

Create a new view.

Start Name Server Click this button to start the BIND server, and load the current configuration.

Return to index

Here in **Domain name/Network** give a Domain name (we used **netcamp.in** as our Domain) Provide a mail address. As of question in 100 there will be only DNS and web **DNS** translates domain names to IP addresses so browsers can load Internet resources. Each device connected to the Internet has a unique IP address which other machines **use** to find the device. Without DNS, the Internet would collapse - it would be impossible for people and machines to access Internet servers via the friendly URLs they have come to know.

192.168.1.100:10000/bind8/master_form.cgi

Create Master Zone

New master zone options

Zone type: Forward (Names to Addresses) Reverse (Addresses to Names)

Domain name / Network: netcamp.in

Records file: Automatic ...

Master server: netcamp-server Add NS record for master server?

Email address: a@netcamp.in

Use zone template? Yes No

Add reverses for template addresses? Yes No

Refresh time: 10800 seconds

Expiry time: 604800 seconds

Transfer retry time: 3600 seconds

Default time-to-live: 38400 seconds

Create

[Return to zone list](#)

After that Click on Create.

In **Bind dns server** click on our create DNS>>go to Addresses Records>>give the first linux server's IP>>after that click on create

192.168.1.100:10000/bind8/edit_recs.cgi?index=10&view=&type=A

Address Records

In netcamp.in

Add Address Record

Name:

Address: 192.168.1.100

Time-To-Live: Default ...

Update reverse? Yes Yes (and replace existing) No

Create

[Return to zone list](#) | [Return to record types](#)

In Edit Master Zone click on Address(0)

The screenshot shows the 'Edit Master Zone' interface for a zone named 'netcamp.in'. The page is divided into several sections of record types:

- Address (0)**: Represented by a square icon with a 'A' inside.
- Name Server (1)**: Represented by a square icon with a 'NS' inside.
- Name Alias (0)**: Represented by a square icon with a 'CI' inside.
- Mail Server (0)**: Represented by a square icon with a 'M' inside.
- Host Information (0)**: Represented by a square icon with a 'HI' inside.
- Text (0)**: Represented by a square icon with a 'TX' inside.
- Sender Permitted From (0)**: Represented by a square icon with a 'SF' inside.
- Well Known Service (0)**: Represented by a square icon with a 'W' inside.
- Responsible Person (0)**: Represented by a square icon with a 'RF' inside.
- Reverse Address (0)**: Represented by a square icon with a 'PT' inside.
- Location (0)**: Represented by a square icon with a 'LC' inside.
- Service Address (0)**: Represented by a square icon with a 'SF' inside.
- Public Key (0)**: Represented by a square icon with a 'KE' inside.
- All Record Types (1)**: Represented by a square icon with a 'A-MIX NS PTR RR CN' inside.

Below these sections are four buttons:

- Edit Records File**: Represented by a square icon with a file icon inside.
- Edit Zone Parameters**: Represented by a square icon with a gear icon inside.
- Edit Zone Options**: Represented by a square icon with a wrench icon inside.
- Record Generators**: Represented by a square icon with a list icon inside.

At the bottom left are two buttons:

- Delete Zone**: Click this button to delete this zone from your DNS server. Matching reverse address records in other zones hosted by this server will also be deleted.
- Apply Changes**: Click this button to apply changes for this zone only, using the command `rndc reload netcamp.in`. This will only work if changes have been applied for the entire server at least once since the zone was created.

A back arrow and the text 'Return to zone list' are at the bottom left.

Here in **Address Records**>>in Name write Domain name (ex. **Netcamp.in**)>>click on **Create**
 For our web In Name write **www**
 In Address our DNS(192.168.1.100)And our Mail server in 200 (192.168.1.200)

The screenshot shows the 'Address Records' page for the 'netcamp.in' zone. At the top, there is a form for adding a new record:

Name	<input type="text" value="www"/>	Time-To-Live	<input type="radio"/> Default	<input type="text"/>
Address	<input type="text" value="192.168.1.100"/>	<input type="button" value="Create"/>		
Update reverse?	<input type="radio"/> Yes	<input type="radio"/> Yes (and replace existing)	<input type="radio"/> No	

Below the form is a table of existing records:

Name	TTL	Address
<input type="checkbox"/> netcamp.in.	Default	192.168.1.100

At the bottom are buttons for 'Select all' and 'Invert selection', and checkboxes for 'Delete Selected' and 'Delete reverses too?'.

The screenshot shows the 'Address Records' page for the 'netcamp.in' zone. At the top, there is a form for adding a new record:

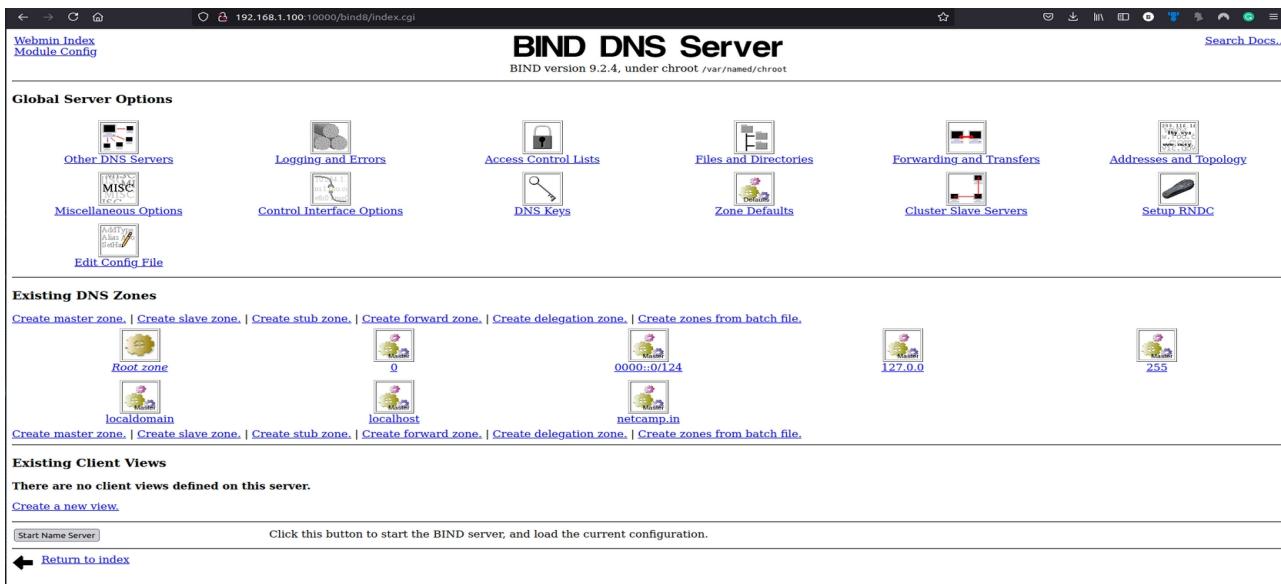
Name	<input type="text"/>	Time-To-Live	<input type="radio"/> Default	<input type="text"/>
Address	<input type="text"/>	<input type="button" value="Create"/>		
Update reverse?	<input type="radio"/> Yes	<input type="radio"/> Yes (and replace existing)	<input type="radio"/> No	

Below the form is a table of existing records:

Name	TTL	Address	Name	TTL	Address
<input type="checkbox"/> netcamp.in.	Default	192.168.1.100	<input type="checkbox"/> sales.netcamp.in.	Default	192.168.1.100
<input type="checkbox"/> www.netcamp.in.	Default	192.168.1.100	<input type="checkbox"/> research.netcamp.in.	Default	192.168.1.100
<input type="checkbox"/> accounts.netcamp.in.	Default	192.168.1.100	<input type="checkbox"/> mail.netcamp.in.	Default	192.168.1.200

At the bottom are buttons for 'Select all' and 'Invert selection', and checkboxes for 'Delete Selected' and 'Delete reverses too?'.

Click on **Start Name Server**>>And then **Apply Changes**



Webmin Index
Module Config

BIND DNS Server

BIND version 9.2.4, under chroot /var/named/chroot

Global Server Options

Other DNS Servers
Logging and Errors
Access Control Lists
Files and Directories
Forwarding and Transfers
Addresses and Topology
Miscellaneous Options
Control Interface Options
DNS Keys
Zone Defaults
Cluster Slave Servers
Edit Config File

Existing DNS Zones

Create master zone, | Create slave zone, | Create stub zone, | Create forward zone, | Create delegation zone, | Create zones from batch file.

Root zone
0
0000:0/124
127.0.0
255
localdomain
localhost
netcamp.in

Create master zone, | Create slave zone, | Create stub zone, | Create forward zone, | Create delegation zone, | Create zones from batch file.

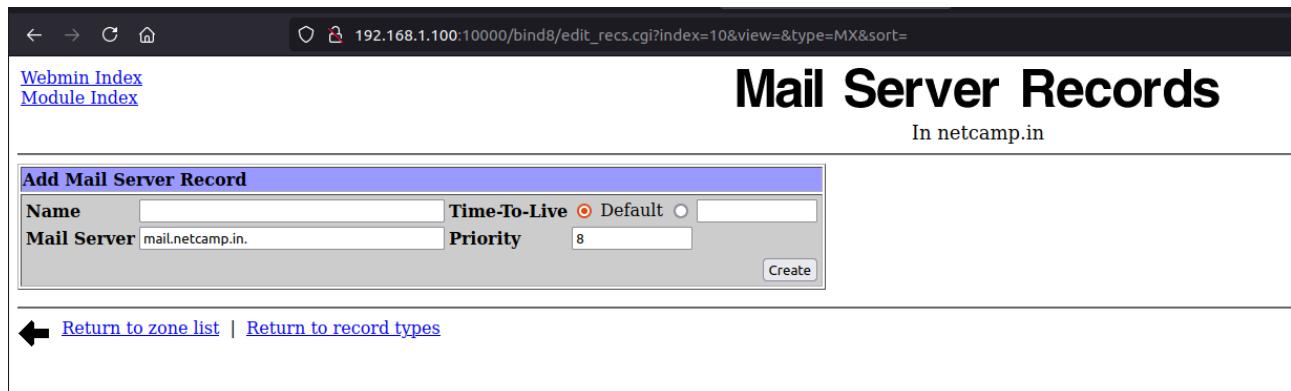
Existing Client Views

There are no client views defined on this server.

Create a new view.

Start Name Server Click this button to start the BIND server, and load the current configuration.

[Return to index](#)



Webmin Index
Module Index

Mail Server Records

In netcamp.in

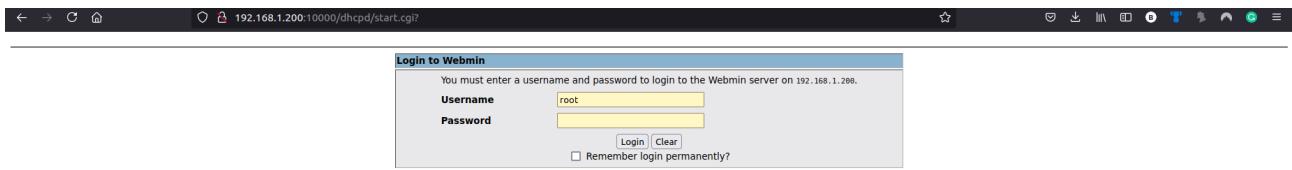
Add Mail Server Record

Name: <input type="text" value="mail.netcamp.in."/>	Time-To-Live: <input checked="" type="radio"/> Default <input type="radio"/> <input type="text" value=""/>
Mail Server: <input type="text" value="mail.netcamp.in."/>	Priority: <input type="text" value="8"/>

Create

[Return to zone list](#) | [Return to record types](#)

Go to your browser and type **http://192.168.1.200:10000**



192.168.1.200:10000/dhcpd/start.cgi

Login to Webmin

You must enter a username and password to login to the Webmin server on 192.168.1.200.

Username:
Password:

Remember login permanently?
Login **Clear**

Webmin
Version 1.330 on netcamp-server (Redhat Enterprise Linux 4ES)

Feedback..

System **Servers** **Networking** **Hardware** **Cluster** **Others**

Apache Webserver	BIND DNS Server	CVS Server	DHCP Server
Dovecot IMAP/POP3 Server	Fetchmail Mail Retrieval	Frox FTP Proxy	Jabber IM Server
Majordomo List Manager	MySQL Database Server	OpenSLP Server	Postfix Configuration
PostgreSQL Database Server	ProFTPD Server	Procmail Mail Filter	QMail Configuration
Read User Mail	SSH Server	Samba Windows File Sharing	Sendmail Configuration
SpamAssassin Mail Filter	Squid Analysis Report Generator	Squid Proxy Server	WU-FTP Server
Webalizer Logfile Analysis			

192.168.1.200:10000/bind8/master_form.cgi

Create Master Zone

[Webmin Index](#) [Module Index](#)

New master zone options

Zone type	<input checked="" type="radio"/> Forward (Names to Addresses) <input type="radio"/> Reverse (Addresses to Names)
Domain name / Network	netcamp.in
Records file	<input checked="" type="radio"/> Automatic <input type="radio"/> ...
Master server	netcamp-server
Email address	c@netcamp.in
Use zone template?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Add reverses for template addresses?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Refresh time	10800 seconds
Expiry time	604800 seconds
<input type="button" value="Create"/>	
Return to zone list	

192.168.1.200:10000/bind8/edit_recs.cgi?index=10&view=&type=A&sort=

Address Records

In netcamp.in

[Webmin Index](#) [Module Index](#)

Add Address Record

Name	mail	Time-To-Live	<input checked="" type="radio"/> Default <input type="radio"/> <input type="text"/>
Address	<input type="text"/>	<input type="button" value="Create"/>	
Update reverse? <input checked="" type="radio"/> Yes <input type="radio"/> Yes (and replace existing) <input type="radio"/> No			

Select all. | Invert selection.

Name	TTL	Address
netcamp.in	Default	192.168.1.100

Select all. | Invert selection.

Delete Selected Delete reverses too?

[Return to zone list](#) | [Return to record types](#)

Address Records

In netcamp.in

Add Address Record

Name	<input type="text"/>	Time-To-Live	<input type="radio"/> Default	<input type="radio"/>	<input type="text"/>
Address	<input type="text"/> ...				
Update reverse? <input type="radio"/> Yes <input type="radio"/> Yes (and replace existing) <input type="radio"/> No					
<input type="button" value="Create"/>					

[Select all](#) | [Invert selection](#).

Name	TTL	Address	Name	TTL	Address
<input type="checkbox"/> netcamp.in.	Default	192.168.1.100	<input type="checkbox"/> mail.netcamp.in.	Default	192.168.1.200

[Select all](#) | [Invert selection](#).

Delete Selected Delete reverses too?

[!\[\]\(0b0636dbae614f97346d733ac650473d_img.jpg\) Return to zone list](#) | [Return to record types](#)

Edit Master Zone

netcamp.in

 Address (2)
 Host Information (0)

 Name Server (1)
 Text (0)
 Reverse Address (0)

 Name Alias (0)
 Sender Permitted From (0)
 Location (0)

 Mail Server (0)
 Well Known Service (0)
 Service Address (0)

 Responsible Person (0)
 Public Key (0)

 All Record Types (3)

 Edit Records File
 Edit Zone Parameters

 Edit Zone Options

 Record Generators

 Lookup WHOIS Information

Click this button to delete this zone from your DNS server. Matching reverse address records in other zones hosted by this server will also be deleted.

Click this button to apply changes for this zone only, using the command `rndc reload netcamp.in`. This will only work if changes have been applied for the entire server at least once since the zone was created.

[!\[\]\(4406e0f3c17d7dcab32dbbaf5d4fe35c_img.jpg\) Return to zone list](#)

192.168.1.200:10000/bind8/index.cgi

BIND DNS Server

BIND version 9.2.4, under chroot /var/named/chroot

[Webmin Index](#) [Module Config](#) [Search Docs..](#)

Global Server Options

[Other DNS Servers](#) [Logging and Errors](#) [Access Control Lists](#) [Files and Directories](#) [Forwarding and Transfers](#) [Addresses and Topology](#)
[Miscellaneous Options](#) [Control Interface Options](#) [DNS Keys](#) [Zone Defaults](#) [Cluster Slave Servers](#) [Setup RNDC](#)
[Edit Config File](#)

Existing DNS Zones

[Create master zone](#) | [Create slave zone](#) | [Create stub zone](#) | [Create forward zone](#) | [Create delegation zone](#) | [Create zones from batch file](#).

[Create master zone](#) | [Create slave zone](#) | [Create stub zone](#) | [Create forward zone](#) | [Create delegation zone](#) | [Create zones from batch file](#).

Existing Client Views

There are no client views defined on this server.

[Create a new view](#).

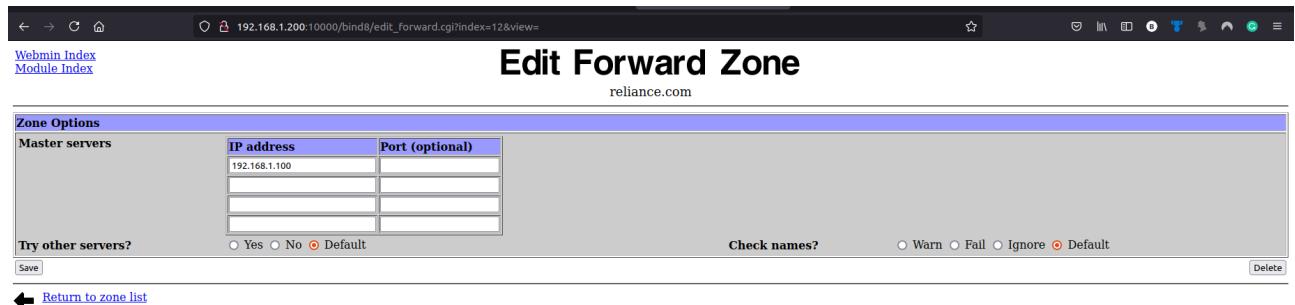
Click this button to start the BIND server, and load the current configuration.

[Return to index](#)

DNS FORWARDING

DNS forwarding is the process by which particular sets of DNS queries are handled by a designated server, rather than being handled by the initial server contacted by the client. This creates a type of link between the client and server as it is not possible every time for client server to directly contact the dns server. The forwarding server itself isn't the master(dns) server but it knows who the DNS server is.

For creating forwarding we need to create forward zone in Bind DNS server option. Then we need to edit the forward zone as shown below-



Zone Options

Master servers	IP address	Port (optional)
	192.168.1.100	

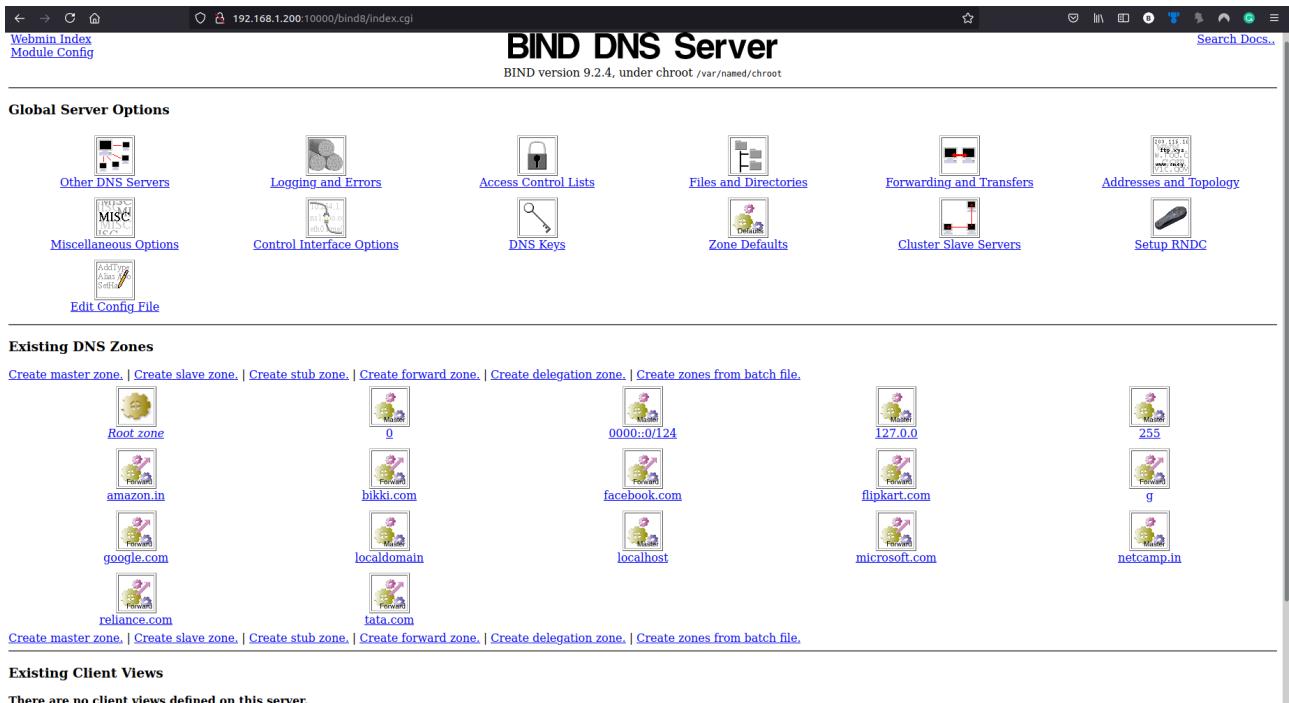
Try other servers? Yes No Default

Check names? Warn Fail Ignore Default

[Save](#) [Delete](#)

[Return to zone list](#)

We create 8 forward zones for different companies as asked in the problem. The companies were google.com, flipkart.com, amazon.com, bikki.com, microsoft.com, facebook.com, reliance.com and tata.com as shown below-



Global Server Options

Existing DNS Zones

Create master zone. | Create slave zone. | Create stub zone. | Create forward zone. | Create delegation zone. | Create zones from batch file.

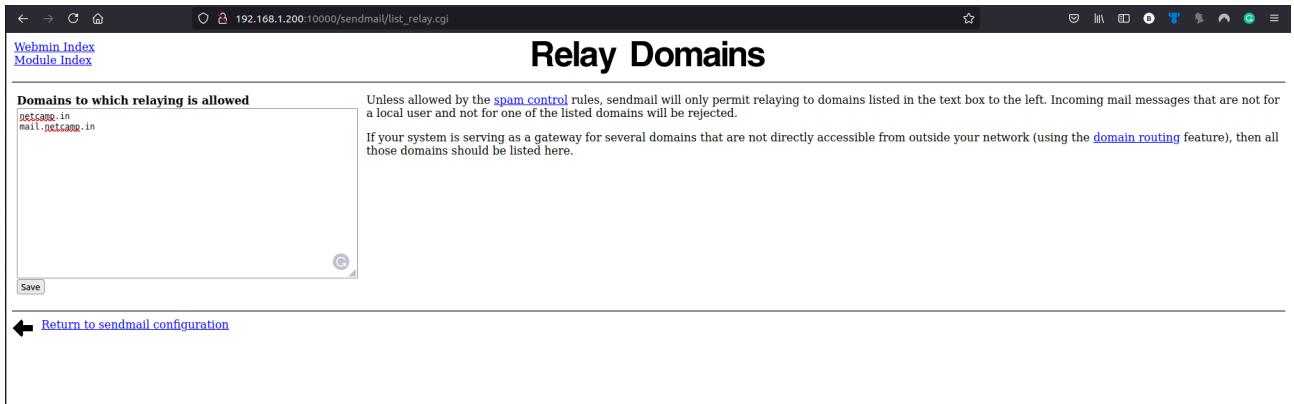
Root zone	0	0000:0/124	127.0.0	255
amazon.in	bikki.com	facebook.com	flipkart.com	g
google.com	localdomain	localhost	microsoft.com	netcamp.in
reliance.com	tata.com			

Create master zone. | Create slave zone. | Create stub zone. | Create forward zone. | Create delegation zone. | Create zones from batch file.

Existing Client Views

There are no client views defined on this server.

For creating intramail between netcamp.in and the companies, we had to fill the relay domain in Sendmail configuration as shown below-



Relay Domains

Domains to which relaying is allowed

netcamp.in
mail.netcamp.in

Unless allowed by the [spam control](#) rules, sendmail will only permit relaying to domains listed in the text box to the left. Incoming mail messages that are not for a local user and not for one of the listed domains will be rejected.

If your system is serving as a gateway for several domains that are not directly accessible from outside your network (using the [domain routing](#) feature), then all those domains should be listed here.

Save

[Return to sendmail configuration](#)

Now we can send mail from one company to another by adding users in various companies.

Apache Webserver Configuration

```
root@netcamp-server:/etc
bikki@bikki:~$ telnet 192.168.1.100
Trying 192.168.1.100...
Connected to 192.168.1.100.
Escape character is '^]'.
Certificate in Network Management and Ethical Hacking with Web Development
www.netcamp.in
santu@netcamp.in
helpdesk@netcamp.in
093310 90003
login: netcamp
Password:
Last login: Tue Jun  1 11:04:48 from 192.168.1.13
Welcome to Netcamp Class
[netcamp@netcamp-server ~]$ su -
Password:
[root@netcamp-server ~]# cd /
[root@netcamp-server /]# pwd
/
[root@netcamp-server /]# mkdir webnet
[root@netcamp-server /]# cd webnet
[root@netcamp-server webnet]# touch index.html
[root@netcamp-server webnet]# vi index.html
```

```
root@netcamp-server:/etc
My netcamp project
Bikki Singha
100 dns,web,account,sales,research
: wq
```

```

root@netcamp-server:/etc
bikki@bikki:~$ telnet 192.168.1.100
Trying 192.168.1.100...
Connected to 192.168.1.100.
Escape character is '^]'.
Certificate in Network Management and Ethical Hacking with Web Development
www.netcamp.in
santu@netcamp.in
helpdesk@netcamp.in
093310 90003
login: netcamp
Password:
Last login: Tue Jun  1 11:04:48 from 192.168.1.13
Welcome to Netcamp Class
[netcamp@netcamp-server ~]$ su -
Password:
[root@netcamp-server ~]# cd /
[root@netcamp-server /]# pwd
/
[root@netcamp-server /]# mkdir webnet
[root@netcamp-server /]# cd webnet
[root@netcamp-server webnet]# touch index.html
[root@netcamp-server webnet]# vi index.html
[root@netcamp-server webnet]# cat index.html
My netcamp project
Bikki Singha
100 dns,web,account,sales,research
[root@netcamp-server webnet]# █

```

192.168.1.100:10000/chooser.cgi?adv

100 10000/apache/index.cgi

Networking and Addresses

MIME Types

User and Group

Miscellaneous

Per-Directory Options Files

Re-Configure Known Modules

Edit Defined Parameters

Edit Config Files

Default Server

Virtual Server

Address Any

Port Any

Address Any

Port 443

Server Name Automatic

Document Root /var/www/html

Server Name Automatic

Document Root /var/www/html

Select all | Invert selection.

Delete Selected Servers

Create a New Virtual Server

Handle connections to address

Port

Document Root

Server Name

Add virtual server to file

Copy directives from

Those not handled by another server

Any address

Specific address ... 192.168.1.100

Add name virtual server address (if needed)

Listen on address (if needed)

Default

Any

Allow access to this directory

Automatic

Standard httpd.conf file

Selected file...

Nowhere

Create Now

Global Configuration

Processes and Limits

Networking and Addresses

MIME Types

User and Group

CGI Programs

Per-Directory Options Files

Re-Configure Known Modules

-DSSI

-DPhf

Miscellaneous

Editing Alias Settings

Edit Config Files

Virtual Servers

Select all | Invert selection.

Default Server

Virtual Server

Defines the default settings for all other virtual servers, and processes any unhandled requests.

Address Any

Port Any

Server Name Automatic

Document Root /var/www/html

Processes all requests on port 443 not handled by other virtual servers.

Address Any

Port 443

Server Name Automatic

Document Root /var/www/html

Create a New Virtual Server

Handle connections to address

Port

Document Root

Server Name

Add virtual server to file

Copy directives from

Those not handled by another server

Any address

Specific address .. 192.168.1.100

Add name virtual server address (if needed)

Listen on address (if needed)

Default

Any

/webnet

Allow access to this directory

Automatic

netcamp.in

Standard httpd.conf file

Selected file...

Nowhere

Create Now

[Return to index](#)

Processes and Limits

Networking and Addresses

MIME Types

User and Group

Miscellaneous

CGI Programs

Per-Directory Options Files

Re-Configure Known Modules

-DSSI

-DPhf

Editing Alias Settings

Edit Config Files

Virtual Servers

Select all | Invert selection.

Default Server

Virtual Server

Defines the default settings for all other virtual servers, and processes any unhandled requests.

Address Any

Port Any

Server Name Automatic

Document Root /var/www/html

Handles the name-based server netcamp.in on address 192.168.1.100.

Address 192.168.1.100

Port Any

Server Name netcamp.in

Document Root /webnet

Processes all requests on port 443 not handled by other virtual servers.

Address Any

Port 443

Server Name Automatic

Document Root /var/www/html

Create a New Virtual Server

Handle connections to address

Port

Document Root

Server Name

Add virtual server to file

Copy directives from

Those not handled by another server

Any address

Specific address .. 192.168.1.100

Add name virtual server address (if needed)

Listen on address (if needed)

Default

Any

/webnet

Allow access to this directory

Automatic

www.netcamp.in

Standard httpd.conf file

Selected file...

Nowhere

Create Now

[Return to index](#)

192.168.1.100:10000/apache/

Apache Webserver

Apache version 2.0.52

Apply Changes
Stop Apache
Search Docs..

Global Configuration

Processes and Limits

Networking and Addresses

MIME Types

User and Group

CGI Programs

Per-Directory Options Files

Re-Configure Known Modules

-DSSI -Dphy

Miscellaneous

Edit Defined Parameters

Edit Config Files

Virtual Servers

Select all. | Invert selection.

Default Server

Defines the default settings for all other virtual servers, and processes any unhandled requests.

Address Any
Port Any

Server Name Automatic
Document Root /var/www/html

Virtual Server

Handles the name-based server netcamp.in on address 192.168.1.100.

Address 192.168.1.100
Port Any

Server Name netcamp.in
Document Root /webnet

Virtual Server

Handles the name-based server www.netcamp.in on address 192.168.1.100.

Address 192.168.1.100
Port Any

Server Name www.netcamp.in
Document Root /webnet

Virtual Server

Handles the name-based server sales.netcamp.in on address 192.168.1.100.

Address 192.168.1.100
Port Any

Server Name sales.netcamp.in
Document Root /webnet

Virtual Server

Handles the name-based server accounts.netcamp.in on address 192.168.1.100.

Address 192.168.1.100
Port Any

Server Name accounts.netcamp.in
Document Root /webnet

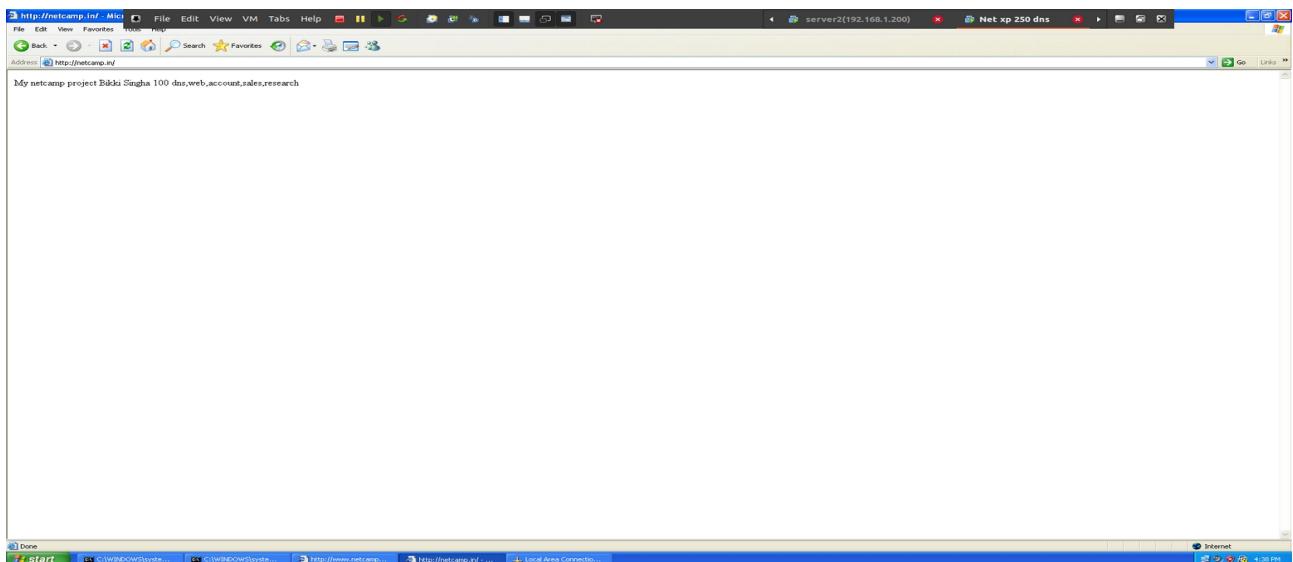
Virtual Server

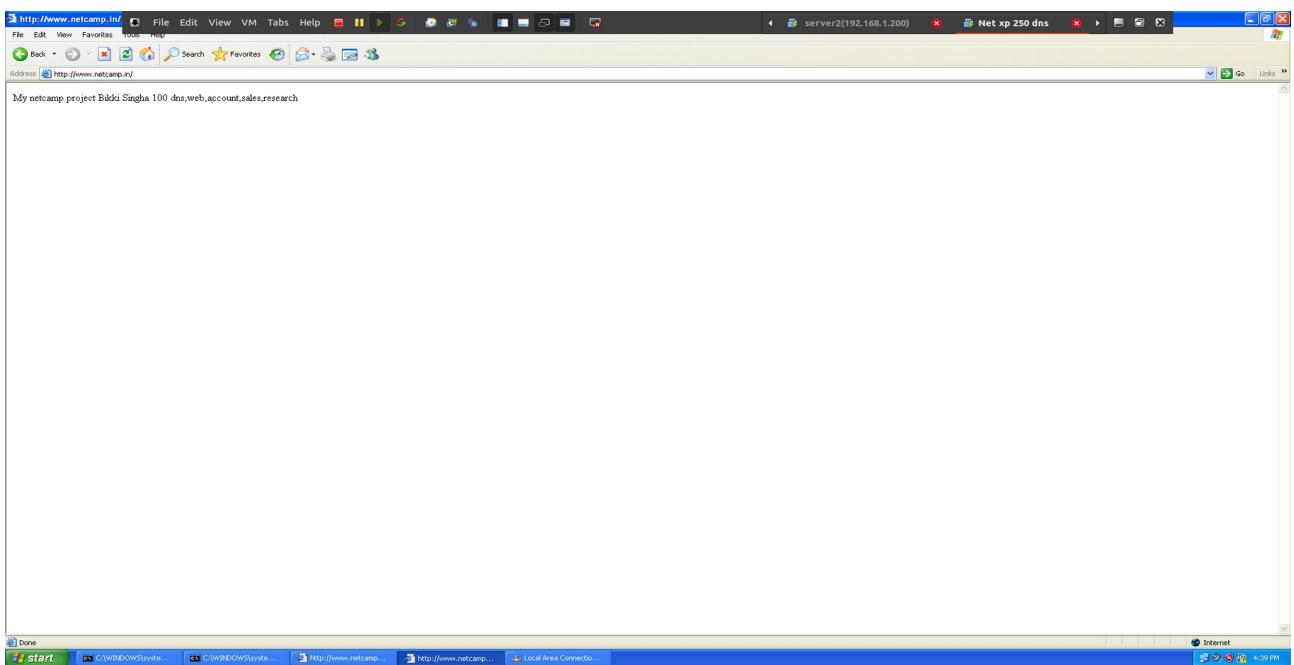
Handles the name-based server research.netcamp.in on address 192.168.1.100.

Address 192.168.1.100
Port Any

Server Name research.netcamp.in
Document Root /webnet

92.168.1.100:10000/apache/restart.cgi?redir=/apache/





Mail Server Configuration

Apache configuration for mail in 200. Write mail address, server name, and document root _

Apache Webserver
Apache version 2.0.5

Virtual Servers

Default Server
Address Any
Port Any
Server Name Automatic
Document Root /var/www/html

Virtual Server
Address Any
Port 443
Server Name Automatic
Document Root /var/www/html

Create a New Virtual Server

Handle connections to address: Specific address 192.168.1.200
Port: 443
Document Root: /var/www/html

Server Name: mail.netcamp.in

Now click on create and start Apache

Virtual Servers

Default Server
Address Any
Port Any
Server Name Automatic
Document Root /var/www/html

Virtual Server
Address Any
Port 443
Server Name Automatic
Document Root /var/www/html

Create a New Virtual Server

Handle connections to address: Specific address 192.168.1.200
Port: 443
Document Root: /var/www/html

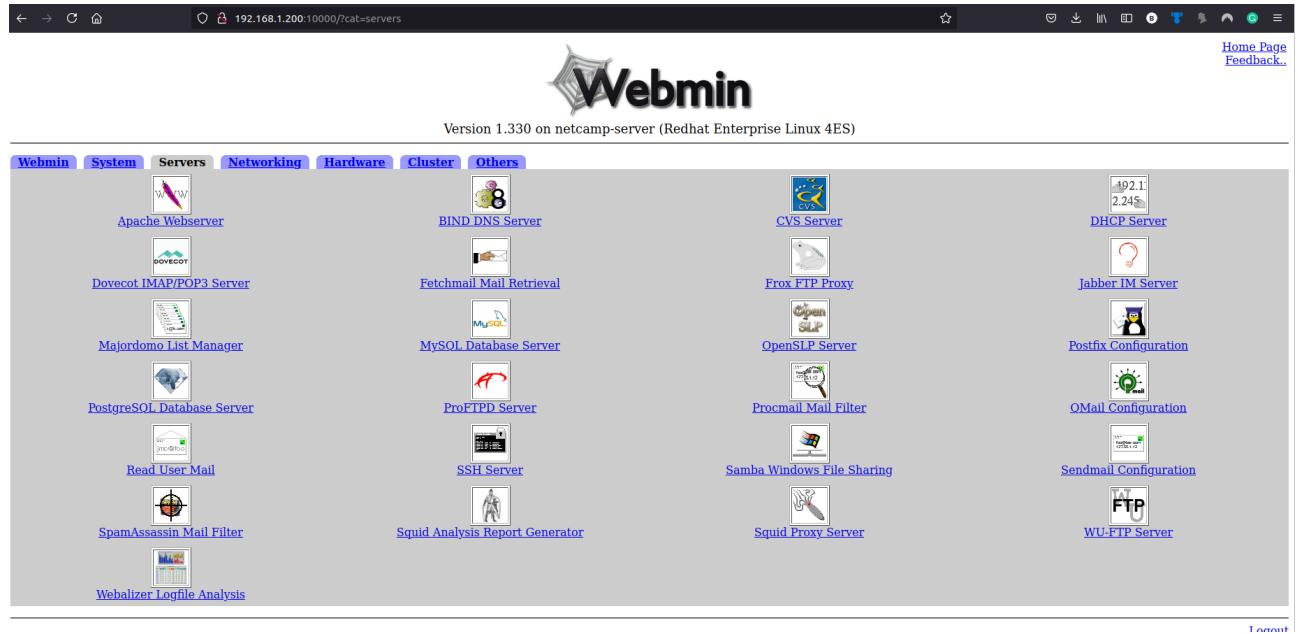
Server Name: mail.netcamp.in

Return to index

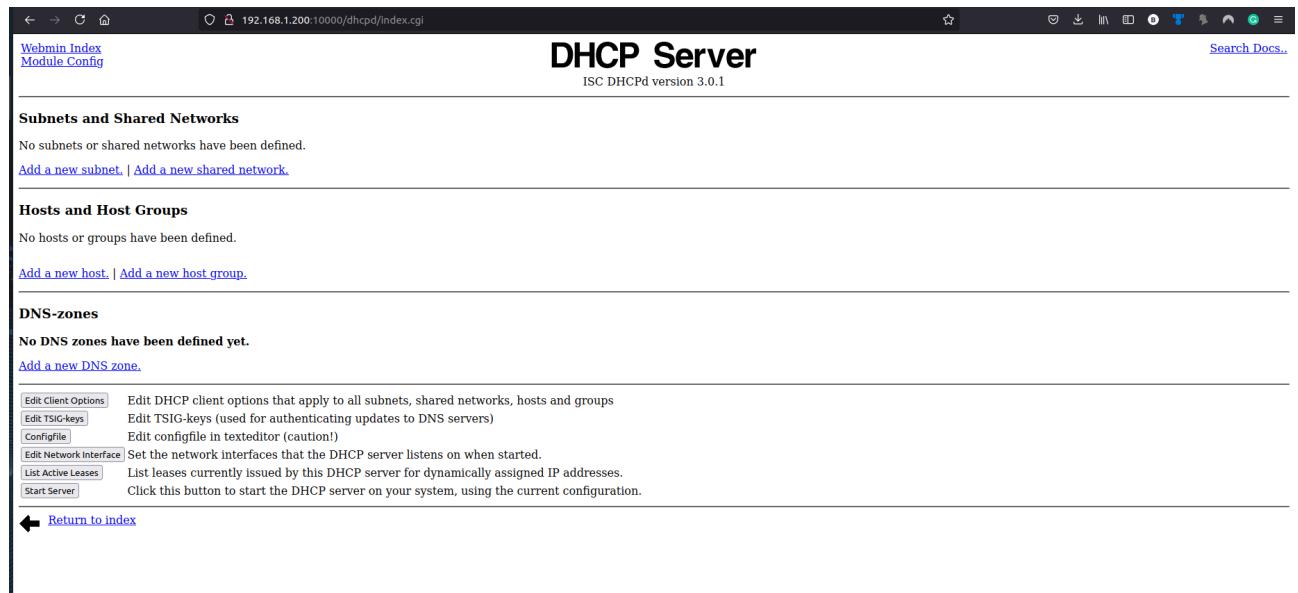
DHCP Server Configuration

DHCP(Dynamic Host Configuration Protocol) is a network server that automatically provides and assigns IP addresses, default gateways and other network parameters to client devices. It relies on the standard protocol known as Dynamic Host Configuration Protocol or DHCP to respond to broadcast queries by clients.

For making a server DHCP we first need to access Webmin through that server. We need to go to the servers tab and click on DHCP server. After that we need to click add new subnet and edit subnet.



The screenshot shows the Webmin interface with the 'Servers' tab selected. The page title is 'Webmin' and the sub-title is 'Version 1.330 on netcamp-server (Redhat Enterprise Linux 4ES)'. The 'Servers' tab is active, and the 'DHCP Server' module is highlighted. Other modules listed include Apache Webserver, BIND-DNS Server, CVS Server, MySQL Database Server, OpenSLP Server, ProFTPD Server, Samba Windows File Sharing, SSH Server, Squid Analysis Report Generator, Squid Proxy Server, and various mail-related modules like Dovecot IMAP/POP3 Server, Majordomo List Manager, PostgreSQL Database Server, Read User Mail, SpamAssassin Mail Filter, and Webalizer Logfile Analysis. The 'DHCP Server' module is shown with a configuration icon and the text '192.1.2.245'.



The screenshot shows the 'DHCP Server' configuration page. The title is 'DHCP Server' and the sub-title is 'ISC DHCPd version 3.0.1'. The page is divided into sections: 'Subnets and Shared Networks' (No subnets or shared networks have been defined. [Add a new subnet](#) | [Add a new shared network](#)), 'Hosts and Host Groups' (No hosts or groups have been defined. [Add a new host](#) | [Add a new host group](#)), and 'DNS-zones' (No DNS zones have been defined yet. [Add a new DNS zone](#)). Below these are configuration buttons: 'Edit Client Options', 'Edit TSIG-keys', 'Configfile', 'Edit Network Interface', 'List Active Leases', and 'Start Server'. A 'Return to index' link is at the bottom left.

← → C ⌂ 192.168.1.200:10000/dhcpd/edit_subnet.cgi?new=1

Webmin Index
Module Index

Create Subnet

Subnet Details

Subnet description	dhcp server by BIKKI SINGHA	Netmask	255.255.255.0
Network address	192.168.1.0	<input type="checkbox"/> Dynamic BOOTP ?	
Address ranges	192.168.1.150 - 192.168.1.190	Default lease time	Default <input type="radio"/> <input type="text"/> secs
Shared network	<None> <input type="button" value="▼"/>	Maximum lease time	Default <input type="radio"/> <input type="text"/> secs
Boot filename	<input type="radio"/> None <input type="text"/>	Server name	Default <input type="radio"/> <input type="text"/>
Boot file server	<input type="radio"/> This server <input type="text"/>	Lease end for BOOTP clients	Never <input type="radio"/> <input type="text"/>
Lease length for BOOTP clients	<input type="radio"/> Forever <input type="text"/> secs	Dynamic DNS domain name	Default <input type="radio"/> <input type="text"/>
Dynamic DNS enabled?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Default	Dynamic DNS hostname	From client <input type="radio"/>
Dynamic DNS reverse domain	<input type="radio"/> Default <input type="text"/>		
Allow unknown clients?	<input type="radio"/> Allow <input type="radio"/> Deny <input type="radio"/> Ignore <input type="radio"/> Default		
client-updates: Can clients update their own records?	<input type="radio"/> Allow <input type="radio"/> Deny <input type="radio"/> Ignore <input type="radio"/> Default		
Server is authoritative for this subnet?	<input type="radio"/> Yes <input type="radio"/> Default (No)		
Hosts directly in this subnet		Groups directly in this subnet	

Create

[Return to subnet list](#)

← → C ⌂ 192.168.1.200:10000/dhcpd/edit_options.cgi?global=1

Webmin Index
Module Index

Client Options

For all networks, hosts and groups

Client Options

Client hostname	<input type="radio"/> Default <input type="text"/>	Default routers	<input type="radio"/> Default <input type="text"/> 192.168.1.1
Subnet mask	<input type="radio"/> Default <input type="text"/>	Broadcast address	<input type="radio"/> Default <input type="text"/>
Domain name	<input type="radio"/> Default <input type="text"/>	DNS servers	<input type="radio"/> Default <input type="text"/> 198.168.1.100
Time servers	<input type="radio"/> Default <input type="text"/>	Log servers	<input type="radio"/> Default <input type="text"/>
Swap server	<input type="radio"/> Default <input type="text"/>	Root disk path	<input type="radio"/> Default <input type="text"/>
NIS domain	<input type="radio"/> Default <input type="text"/>	NIS servers	<input type="radio"/> Default <input type="text"/>
Font servers	<input type="radio"/> Default <input type="text"/>	XDM servers	<input type="radio"/> Default <input type="text"/>
Static routes	<input type="radio"/> Default <input type="text"/>	NetBIOS name servers	<input type="radio"/> Default <input type="text"/>
NTP servers	<input type="radio"/> Default <input type="text"/>	NetBIOS node type	<input type="radio"/> Default <input type="text"/>
NetBIOS scope	<input type="radio"/> Default <input type="text"/>		
Time offset	<input type="radio"/> Default <input type="text"/>	<input type="checkbox"/> These IPs only?	
SLP directory agent IPs	<input type="radio"/> Default <input type="text"/>	<input type="checkbox"/> This scope only?	
SLP service scope	<input type="radio"/> Default <input type="text"/>		
Custom option	Number <input type="text"/> Value <input type="text"/>	Custom option	Number <input type="text"/> Value <input type="text"/>
Option definition	Option name <input type="text"/> Number <input type="text"/> Type <input type="text"/>		
Use name as client hostname?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Default	Default lease time	<input type="radio"/> Default <input type="radio"/> <input type="text"/> secs
Boot filename	<input type="radio"/> None <input type="text"/>	Maximum lease time	<input type="radio"/> Default <input type="radio"/> <input type="text"/> secs
Boot file server	<input type="radio"/> This server <input type="text"/>	Server name	<input type="radio"/> Default <input type="text"/>
Lease length for BOOTP clients	<input type="radio"/> Forever <input type="text"/> secs	Lease end for BOOTP clients	<input type="radio"/> Never <input type="radio"/> <input type="text"/>
Dynamic DNS enabled?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Default	Dynamic DNS domain name	<input type="radio"/> Default <input type="text"/>
Dynamic DNS reverse domain	<input type="radio"/> Default <input type="text"/>	Dynamic DNS hostname	<input type="radio"/> From client <input type="radio"/>
Dynamic DNS update style	<input type="radio"/> Ad-hoc <input type="radio"/> Interim <input type="radio"/> None <input type="radio"/> Default		
Allow unknown clients?	<input type="radio"/> Allow <input type="radio"/> Deny <input type="radio"/> Ignore <input type="radio"/> Default		
client-updates: Can clients update their own records?	<input type="radio"/> Allow <input type="radio"/> Deny <input type="radio"/> Ignore <input type="radio"/> Default		
Server is authoritative for all subnets?	<input type="radio"/> Yes <input type="radio"/> Default (No)		

Save

[Return to network and host list](#)

192.168.1.200:10000/dhcpd/

DHCP Server
ISC DHCPD version 3.0.1

[Search Docs...](#)

Subnets and Shared Networks

Select all, | Invert selection, | Add a new subnet, | Add a new shared network.

192.168.1.0

Select all, | Invert selection, | Add a new subnet, | Add a new shared network.
Delete Selected

Hosts and Host Groups

No hosts or groups have been defined.

[Add a new host](#), | [Add a new host group](#).

DNS-zones

No DNS zones have been defined yet.

[Add a new DNS zone](#).

[Edit Client Options](#) Edit DHCP client options that apply to all subnets, shared networks, hosts and groups
[Edit TSIG-keys](#) Edit TSIG-keys used for authenticating updates to DNS servers
[Configure](#) Edit configfile in texteditor (caution)
[Edit Network Interface](#) Set the network interfaces that the DHCP server listens on when started.
[List Active Leases](#) List leases currently issued by this DHCP server for dynamically assigned IP addresses.
[Start Server](#) Click this button to start the DHCP server on your system, using the current configuration.

[Return to index](#)

Click on Start server it will show failed to start dhcpcd

192.168.1.200:10000/dhcpd/start.cgi

Error

Failed to start dhcpcd :

```
Starting dhcpcd: Internet Systems Consortium DHCP Server V3.0.1
Copyright 2004 Internet Systems Consortium.
All rights reserved.
For info, please visit http://www.isc.org/sw/dhcp/

** You must add a ddns-update-style statement to /etc/dhcpcd.conf.
To get the same behaviour as in 3.0b2p11 and previous
versions, add a line that says "ddns-update-style ad-hoc;".
Please read the dhcpcd.conf manual page for more information. **

If you did not get this software from ftp.isc.org, please
get the latest from ftp.isc.org and install that before
requesting help.

If you did not get this software from ftp.isc.org and have not
yet read the README, please read it before requesting help.
If you intend to request help from the dhcp-server@isc.org
mailing list, please read the section on the README about
submitting bug reports and requests for help.

Please do not under any circumstances send requests for
help directly to the authors of this software - please
send them to the appropriate mailing list as described in
the README file.

exiting.
[FAILED]
```

[Return to previous page](#)

AndroidReport.p (23318) Net... Consider yourself (16) WhatsApp Address Reco Error root@netcamp-server:/etc

Error

Failed to start dhcpcd :

```
Starting dhcpcd: Internet Systems Consortium DHCP Server V3.0.1
Copyright 2004 Internet Systems Consortium.
All rights reserved.
For info, please visit http://www.isc.org/sw/dhcp/

** You must add a ddns-update-style statement to /etc/dhcpcd.conf.
To get the same behaviour as in 3.0b2p11 and previous
versions, add a line that says "ddns-update-style ad-hoc;".
Please read the dhcpcd.conf manual page for more information. **

If you did not get this software from ftp.isc.org, please
get the latest from ftp.isc.org and install that before
requesting help.

If you did not get this software from ftp.isc.org and have not
yet read the README, please read it before requesting help.
If you intend to request help from the dhcp-server@isc.org
mailing list, please read the section on the README about
submitting bug reports and requests for help.

Please do not under any circumstances send requests for
help directly to the authors of this software - please
send them to the appropriate mailing list as described in
the README file.

exiting.
[FAILED]
```

[Return to previous page](#)

Inside dhcpcd.conf file we need to add a command named **ddns-update-style ad-hoc;**

```
ddns-update-style ad-hoc;
option domain-name-servers 198.168.1.100, 192.168.1.200;
option routers 192.168.1.1;
# dhcp by BIKKI SINGHA
subnet 192.168.1.0 netmask 255.255.255.0 {
    range 192.168.1.150 192.168.1.190;
}

Failed to start dhcpcd :
Starting dhcpcd: Internet Systems Consortium DHCP Server V3.0.1.
Copyright 2004 Internet Systems Consortium.
All rights reserved.
For info, please visit http://www.isc.org/sw/dhcp/
** You must add a ddns-update-style statement to /etc/dhcpcd.conf.
To get the same behaviour as in 3.0b2p11 and previous
versions, add a line that says "ddns-update-style ad-hoc;".
Please read the dhcpcd.conf manual page for more information. **

If you did not get this software from ftp.isc.org, please
get the latest from ftp.isc.org and install that before
requesting help.

If you did get this software from ftp.isc.org and have not
yet read the README, please read it before requesting help.
If you intend to request help from the dhcp-server@isc.org
mailing list, please read the section on the README about
submitting bug reports and requests for help.

Please do not under any circumstances send requests for
help directly to the authors of this software - please
send them to the appropriate mailing list as described in
the README file.

exiting.
[FAILED]
```

[Return to previous page](#)

Now our DHCP server would be needed to be started. Also on XP we will give IP using DHCP server setting the DNS same as our server. In DHCP Leases we will see list like this shown below-

DHCP Leases

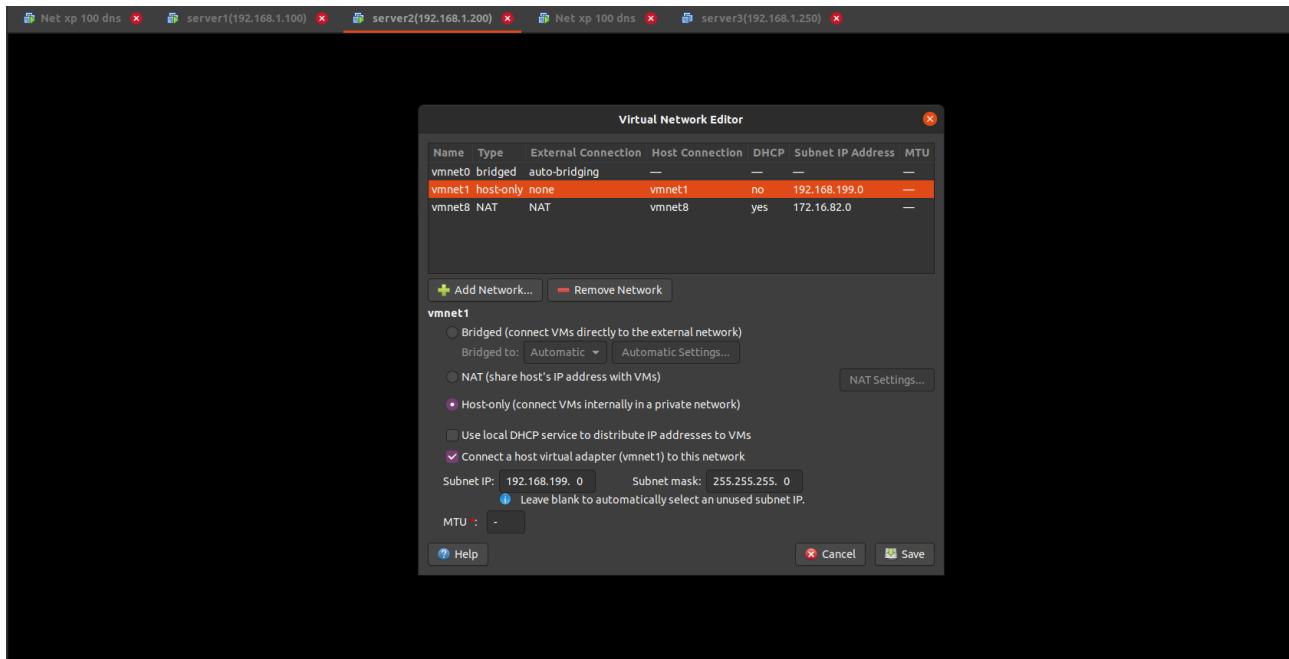
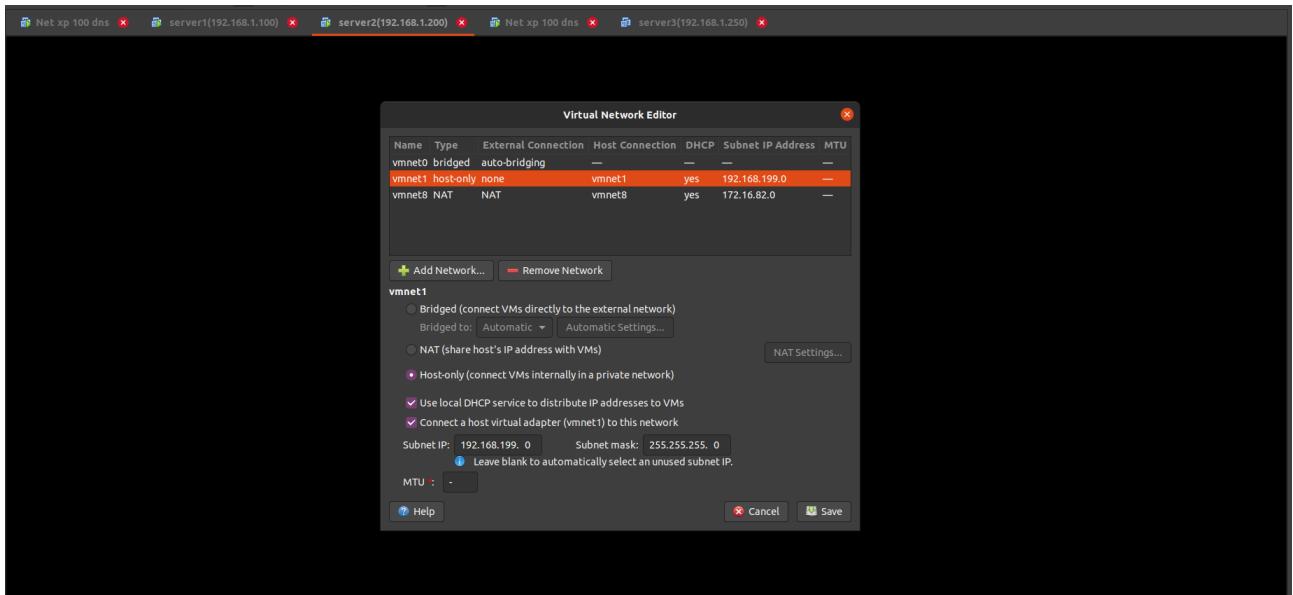
41 IP addresses available, 1 allocated (2 %)

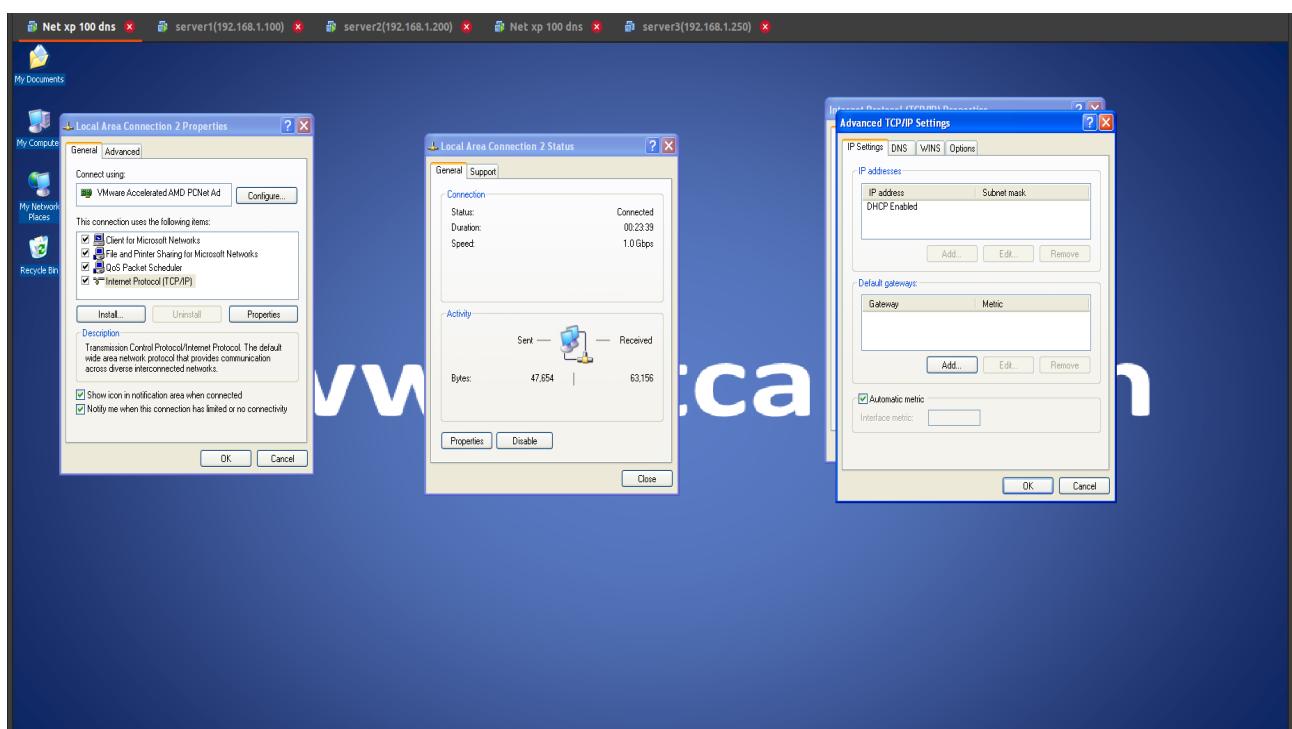
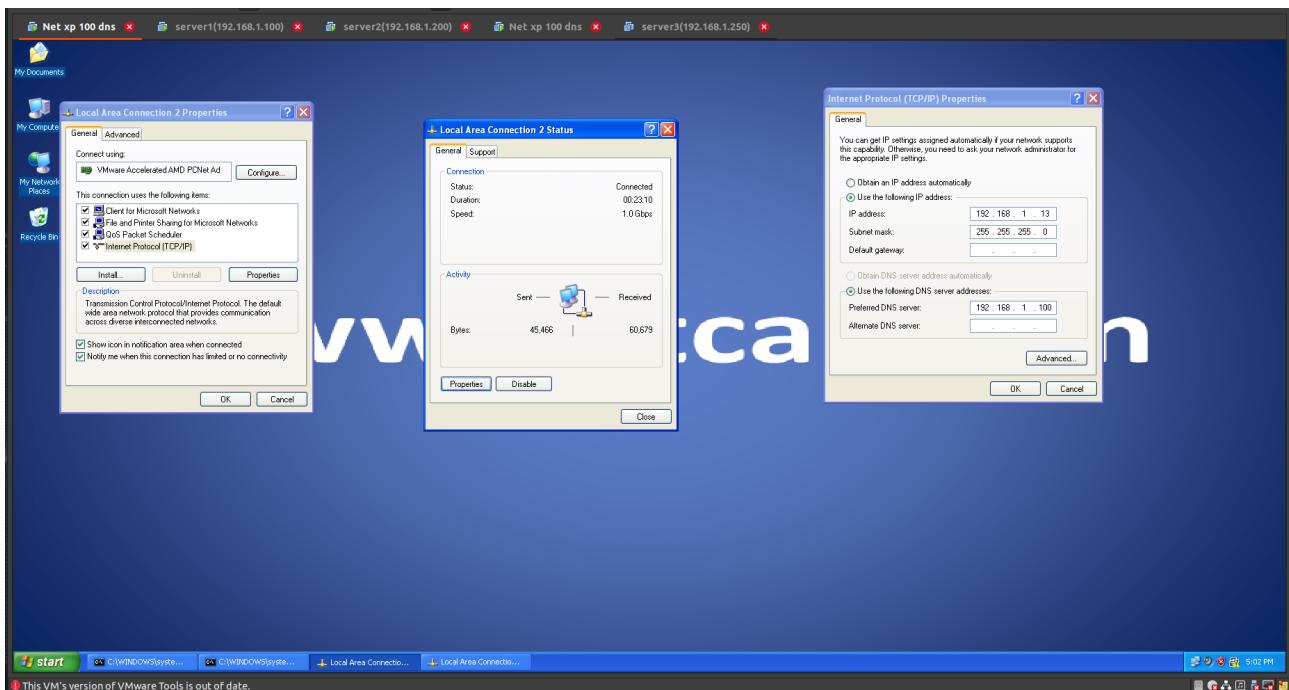
IP Address	Ethernet	Hostname	Start Date	End Date
192.168.1.190	00:0c:29:36:fb:93		2021/06/02 10:16:34	2021/06/02 22:16:34

Click on a lease IP address from the list above to delete it.

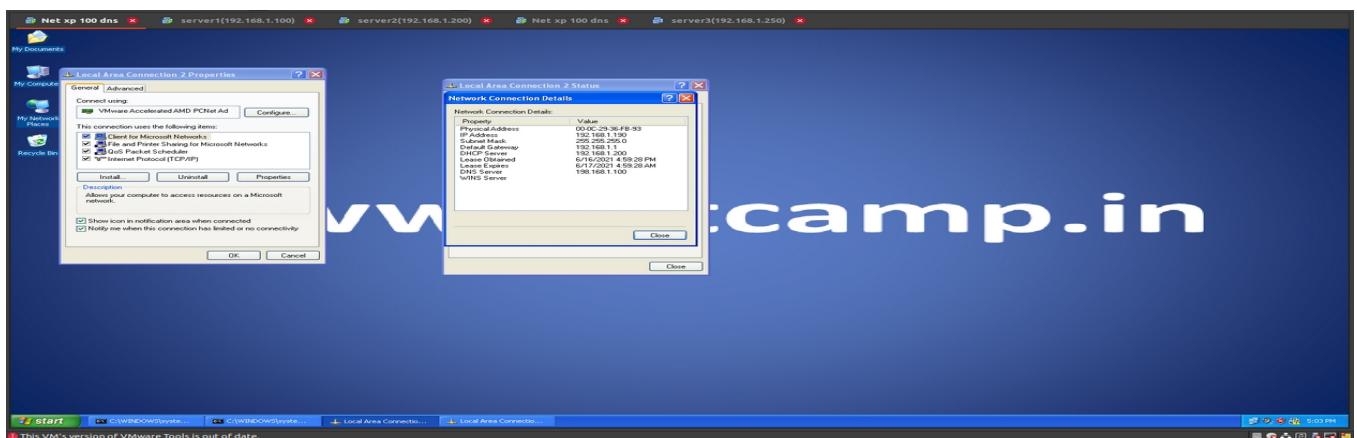
[Return to network and host list](#)

To check the DHCP server in XP, first you have to uncheck Use local DHCP and save



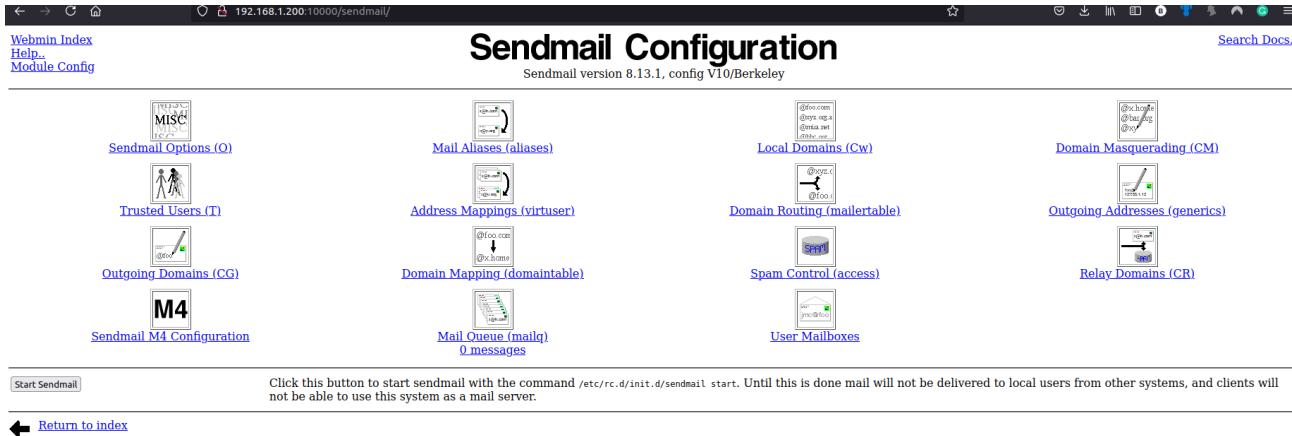


Now you can see here our DHCP server



Send Mail Configuration

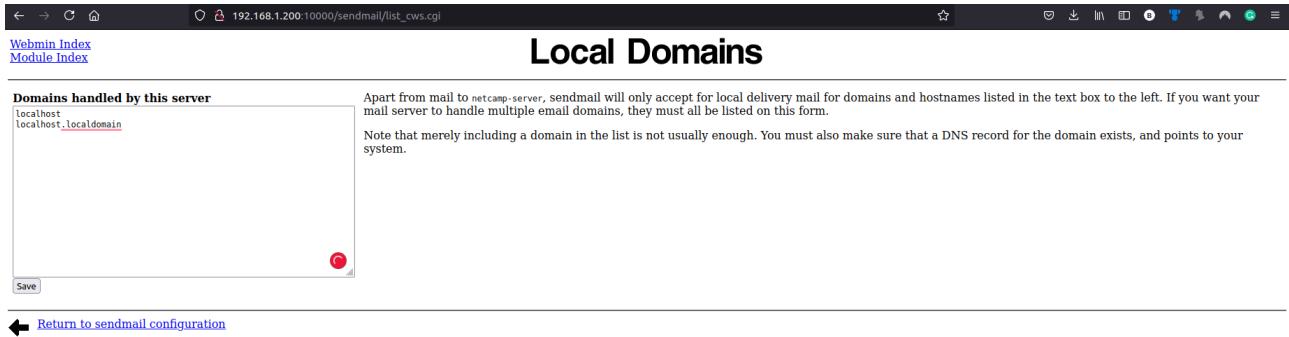
To Configure our mail server goto server's then Sendmail configuration



The screenshot shows the 'Sendmail Configuration' interface. At the top, there are links for 'Webmin Index', 'Help...', and 'Module Config'. The main title is 'Sendmail Configuration' with the subtitle 'Sendmail version 8.13.1, config V10/Berkeley'. Below the title is a grid of configuration modules:

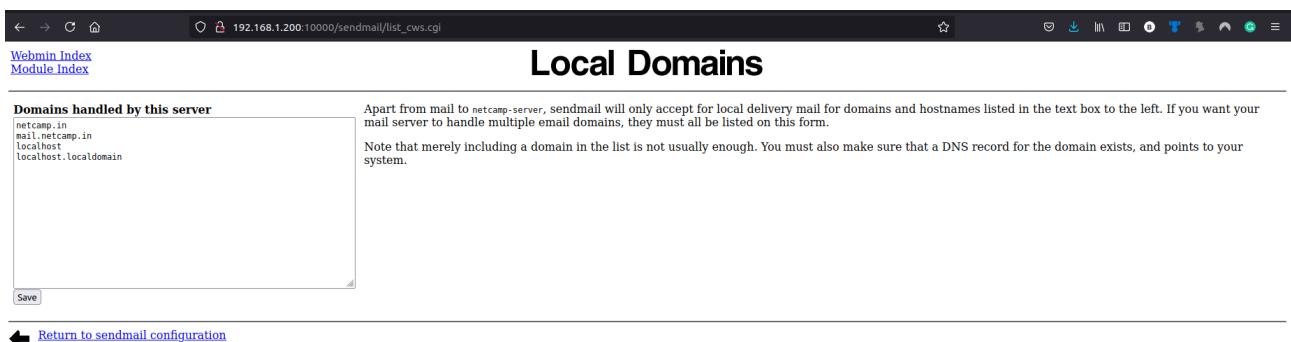
- Sendmail Options (O)
- Mail Aliases (aliases)
- Local Domains (Cw)
- Domain Masquerading (CM)
- Trusted Users (T)
- Address Mappings (virtuser)
- Domain Routing (mailertable)
- Outgoing Addresses (generics)
- Outgoing Domains (CG)
- Domain Mapping (domainable)
- Spam Control (access)
- Relay Domains (CR)
- M4**
- Sendmail M4 Configuration
- Mail Queue (mailq)
0 messages
- User Mailboxes

At the bottom left is a 'Start Sendmail' button with the note: 'Click this button to start sendmail with the command /etc/rc.d/init.d/sendmail start. Until this is done mail will not be delivered to local users from other systems, and clients will not be able to use this system as a mail server.' At the bottom right is a 'Return to index' link.



The screenshot shows the 'Local Domains' configuration page. At the top, there are links for 'Webmin Index' and 'Module Index'. The main title is 'Local Domains'. On the left, there is a text input field labeled 'Domains handled by this server' containing 'localhost' and 'localhost.localdomain'. On the right, there is a note: 'Apart from mail to netcamp-server, sendmail will only accept for local delivery mail for domains and hostnames listed in the text box to the left. If you want your mail server to handle multiple email domains, they must all be listed on this form.' Below the note is another note: 'Note that merely including a domain in the list is not usually enough. You must also make sure that a DNS record for the domain exists, and points to your system.' At the bottom left is a 'Save' button, and at the bottom right is a 'Return to sendmail configuration' link.

Add netcamp.in and mail.netcamp.in



The screenshot shows the 'Local Domains' configuration page again. The 'Domains handled by this server' input field now contains 'netcamp.in', 'mail.netcamp.in', 'localhost', and 'localhost.localdomain'. The notes on the right are identical to the previous screenshot, emphasizing the need for DNS records. At the bottom left is a 'Save' button, and at the bottom right is a 'Return to sendmail configuration' link.

Sendmail Options

Sendmail Options

[Send outgoing mail via host](#) Deliver directly
[Forward unqualified usernames to host](#) Deliver locally
[Forward mail for local users to host](#) Deliver locally
[Delivery mode](#) Default Background Queue only Interactive Deferred
[Sort mail queue by](#) Default Priority Hostname Time received
[SMTP port options](#) Default Entered below...

Max load average for sending Default
Max child processes Default
Min time before retrying send Default
Time before giving up Default 5d
Mail queue directory Default
Send error messages to Postmaster
User forward files Default /var/spool/mqueue
Min free disk space Default 100 blocks
Log level Default 9
Accept mail for users' real names? Yes No
Maximum recipients per message Default
File security options

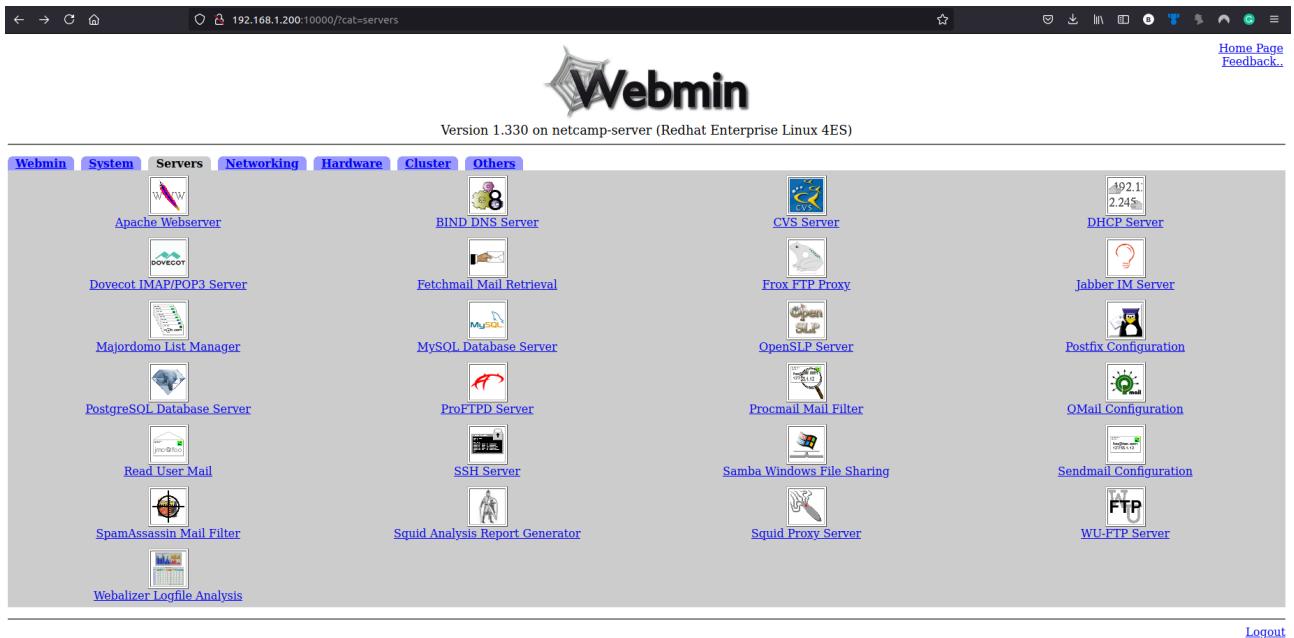
Max load average for receiving Default
Max connections / second Default
Maximum queue size Default
Time before sending warning Default 4h

Max message size Default bytes
MIME-encode bounce messages? Yes No
Maximum mail hop count Default
Maximum bad recipients Default

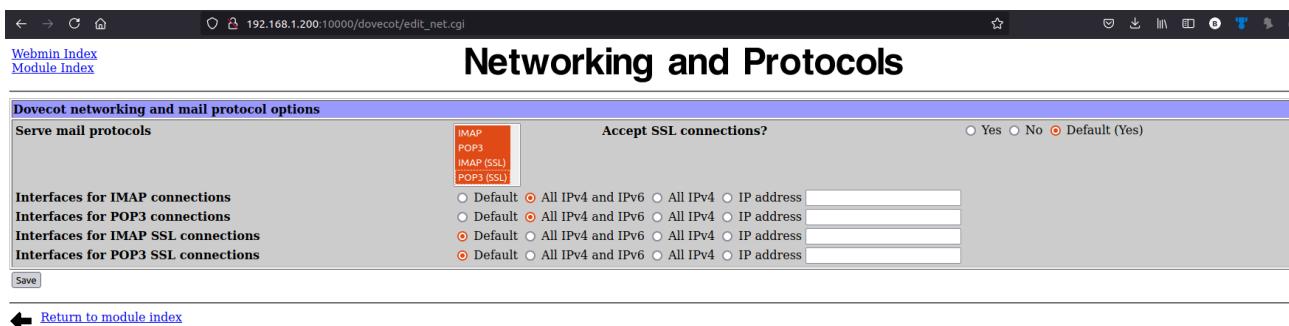
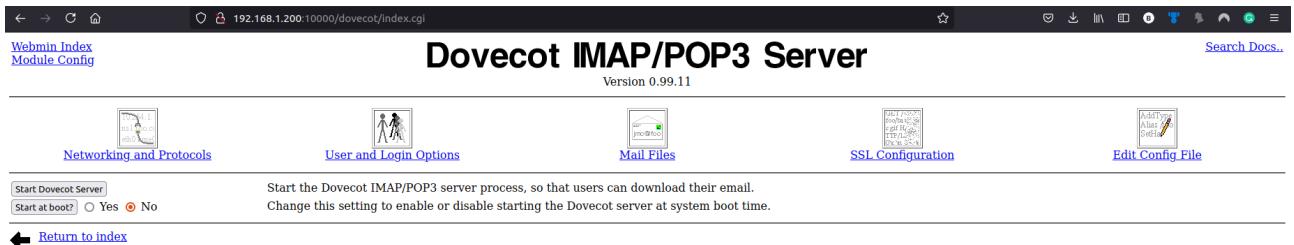
[Save and Apply](#)

[Return to sendmail configuration](#)

IMAP/POP3 Server Configuration



Post that we configure imap and pop3 to read mail and download it.



Network Configuration

Webmin System Servers Networking Hardware Cluster Others

ADS Client Bandwidth Monitoring Extended Internet Services IPsec VPN Configuration

Kerberos5 Linux Firewall NFS Exports NIS Client and Server

Network Configuration PPP Dialin Server PPP Dialup Client PPTP VPN Client

PPTP VPN Server SSL Tunnels Shorewall Firewall idmapd daemon

Logout

Webmin Index Module Config Search Docs..

Network Configuration

Network Interfaces Routing and Gateways Hostname and DNS Client Host Addresses

Click this button to activate the current boot-time interface and routing settings, as they normally would be after a reboot. **Warning** - this may make your system inaccessible via the network, and cut off access to Webmin.

Return to index

Webmin Index Module Index

Edit Host Address

Host and Addresses	
IP Address	127.0.0.1
Hostnames	netcamp-server netcamp.in mail.netcamp.in localhost.localdomain localhost

Save Delete

Return to host addresses list

Adding Users

Now we were asked to create users and folders with permissions on 192.168.1.200 server. So after logging as root we used linux commands. For adding users we used commands as shown below-

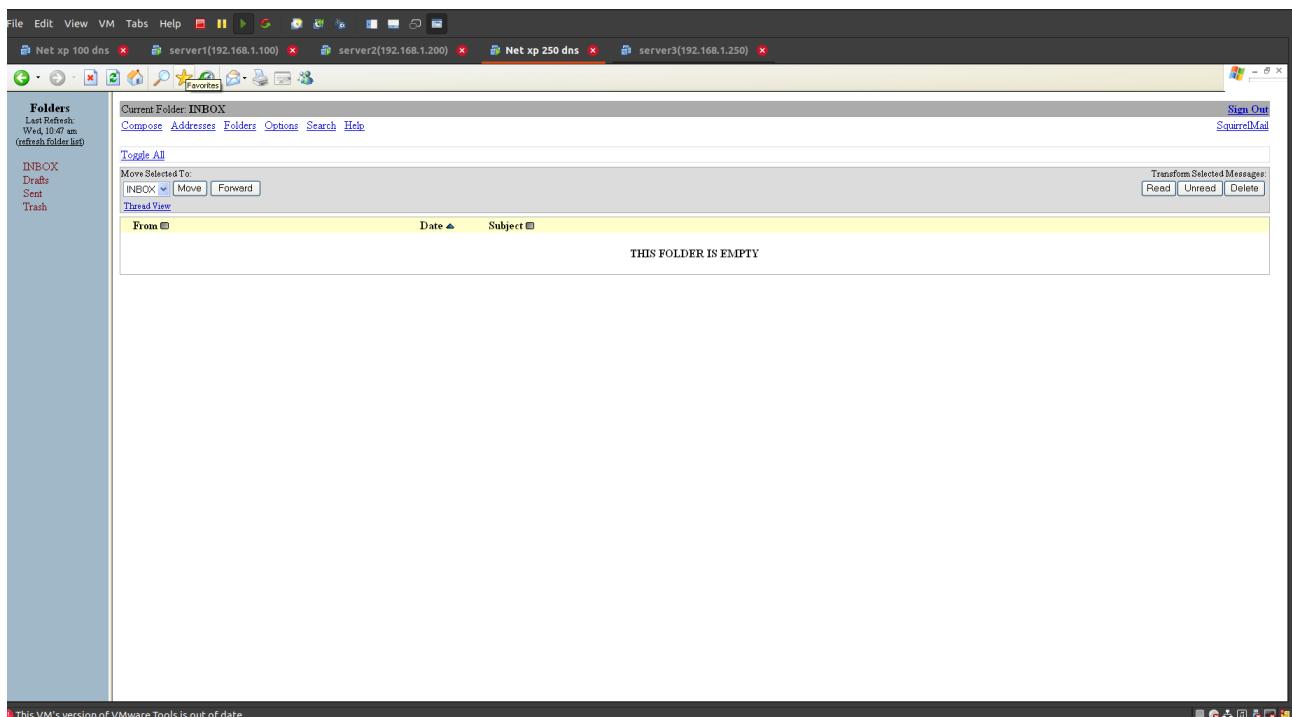
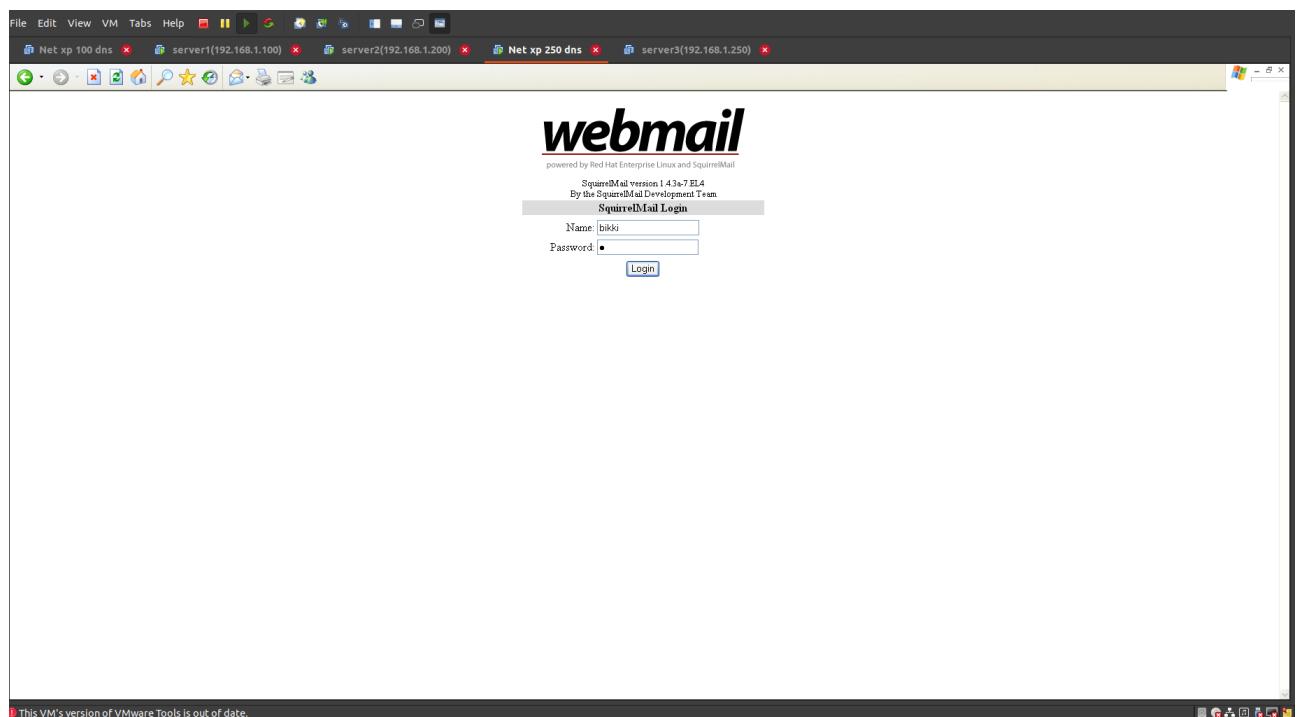
```
root@netcamp-server:~# Connected to 192.168.1.200.
root@netcamp-server:~# Escape character is '^]'.
root@netcamp-server:~# Certificate in Network Management and Ethical Hacking with Web Development
root@netcamp-server:~# www.netcamp.in
root@netcamp-server:~# santu@netcamp.in
root@netcamp-server:~# helpdesk@netcamp.in
root@netcamp-server:~# 093310 90003
root@netcamp-server:~# login: netcamp
root@netcamp-server:~# Password:
root@netcamp-server:~# Last login: Wed Jun  2 09:41:37 from 192.168.1.13
root@netcamp-server:~# Welcome to Netcamp Class
root@netcamp-server:~# [netcamp@netcamp-server ~]# su -
root@netcamp-server:~# Password:
root@netcamp-server:~# [root@netcamp-server ~]# cd /
root@netcamp-server:~# [root@netcamp-server /]# useradd bikki
root@netcamp-server:~# [root@netcamp-server /]# useradd sales1
root@netcamp-server:~# [root@netcamp-server /]# useradd sales1
root@netcamp-server:~# useradd: user sales1 exists
root@netcamp-server:~# [root@netcamp-server /]# useradd sales2
root@netcamp-server:~# [root@netcamp-server /]# useradd accounts1
root@netcamp-server:~# [root@netcamp-server /]# useradd accounts2
root@netcamp-server:~# [root@netcamp-server /]# useradd research1
root@netcamp-server:~# [root@netcamp-server /]# useradd research2
root@netcamp-server:~# [root@netcamp-server /]# passwd sales1
root@netcamp-server:~# Changing password for user sales1.
root@netcamp-server:~# New UNIX password:
root@netcamp-server:~# BAD PASSWORD: it's WAY too short
root@netcamp-server:~# Retype new UNIX password:
root@netcamp-server:~# passwd: all authentication tokens updated successfully.
root@netcamp-server:~# [root@netcamp-server /]# passwd sales2
root@netcamp-server:~# Changing password for user sales2.
root@netcamp-server:~# New UNIX password:
root@netcamp-server:~# BAD PASSWORD: it's WAY too short
root@netcamp-server:~# Retype new UNIX password:
root@netcamp-server:~# passwd: all authentication tokens updated successfully.
root@netcamp-server:~# [root@netcamp-server /]# passwd bikki
root@netcamp-server:~# Changing password for user bikki.
root@netcamp-server:~# New UNIX password:
root@netcamp-server:~# BAD PASSWORD: it's WAY too short
root@netcamp-server:~# Retype new UNIX password:
root@netcamp-server:~# passwd: all authentication tokens updated successfully.
root@netcamp-server:~# [root@netcamp-server /]# passwd accounts1
root@netcamp-server:~# Changing password for user accounts1.
root@netcamp-server:~# New UNIX password:
root@netcamp-server:~# BAD PASSWORD: it's WAY too short
root@netcamp-server:~# Retype new UNIX password:
root@netcamp-server:~# passwd: all authentication tokens updated successfully.
root@netcamp-server:~# [root@netcamp-server /]# passwd accounts2
root@netcamp-server:~# Changing password for user accounts2.
root@netcamp-server:~# New UNIX password:
root@netcamp-server:~# BAD PASSWORD: it's WAY too short
root@netcamp-server:~# Retype new UNIX password:
root@netcamp-server:~# passwd: all authentication tokens updated successfully.
root@netcamp-server:~# [root@netcamp-server /]# passwd accounts1
```

```
root@netcamp-server:~# cd /
root@netcamp-server:~# useradd bikki
root@netcamp-server:~# useradd sales1
root@netcamp-server:~# useradd sales1
useradd: user sales1 exists
root@netcamp-server:~# useradd sales2
root@netcamp-server:~# useradd accounts1
root@netcamp-server:~# useradd accounts2
root@netcamp-server:~# useradd research1
root@netcamp-server:~# useradd research2
root@netcamp-server:~# passwd sales1
Changing password for user sales1.
New UNIX password:
BAD PASSWORD: it's WAY too short
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
root@netcamp-server:~# passwd sales2
Changing password for user sales2.
New UNIX password:
BAD PASSWORD: it's WAY too short
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
root@netcamp-server:~# passwd bikki
Changing password for user bikki.
New UNIX password:
BAD PASSWORD: it's WAY too short
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
root@netcamp-server:~# passwd accounts1
Changing password for user accounts1.
New UNIX password:
BAD PASSWORD: it's WAY too short
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
root@netcamp-server:~# passwd accounts2
Changing password for user accounts2.
New UNIX password:
BAD PASSWORD: it's WAY too short
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
root@netcamp-server:~# passwd research1
Changing password for user research1.
New UNIX password:
BAD PASSWORD: it's WAY too short
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
root@netcamp-server:~# passwd research2
Changing password for user research2.
New UNIX password:
BAD PASSWORD: it's WAY too short
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
root@netcamp-server:~#
```

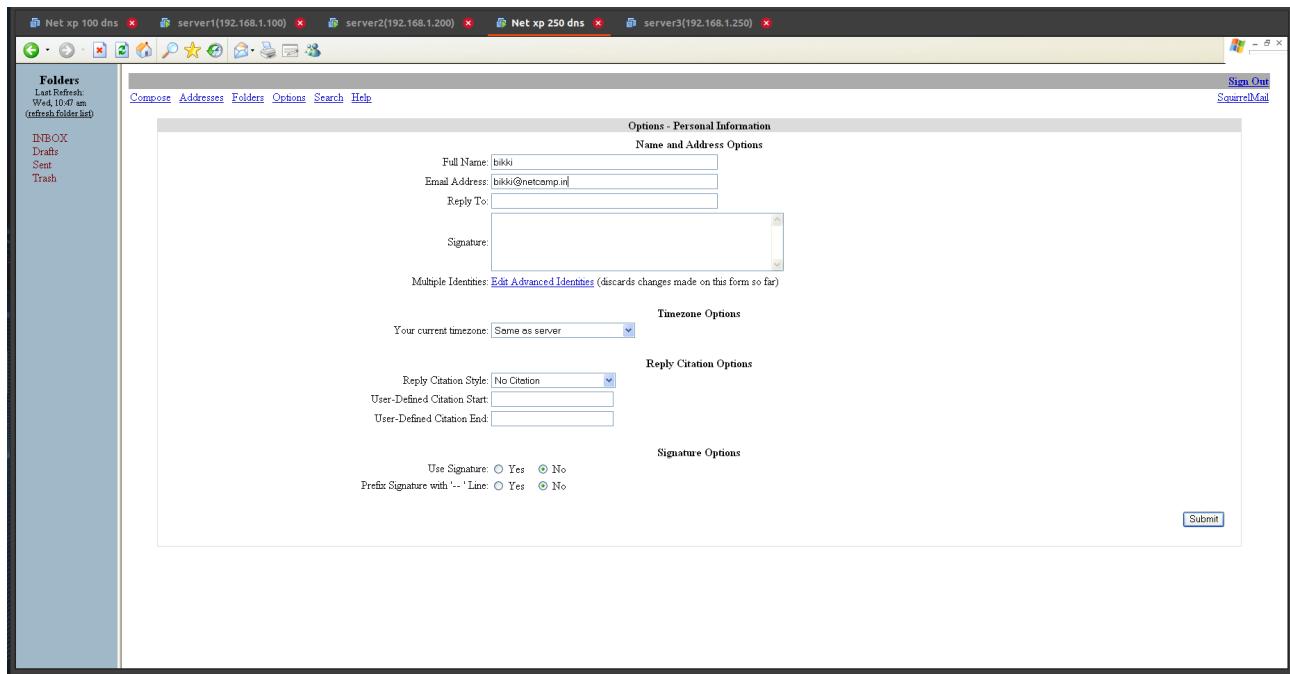
Webmail

Go to Windows XP's internet explorer and type
<http://mail.netcamp.in>

Now login as the user's we have added.

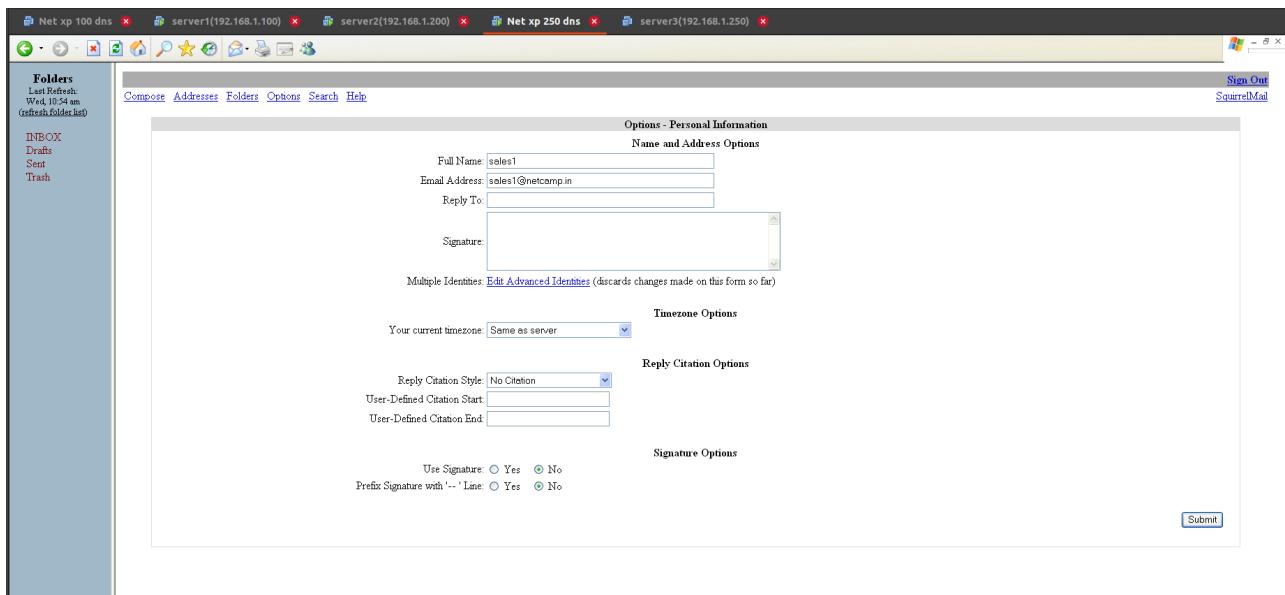


Go to option and fill personal details, mail id

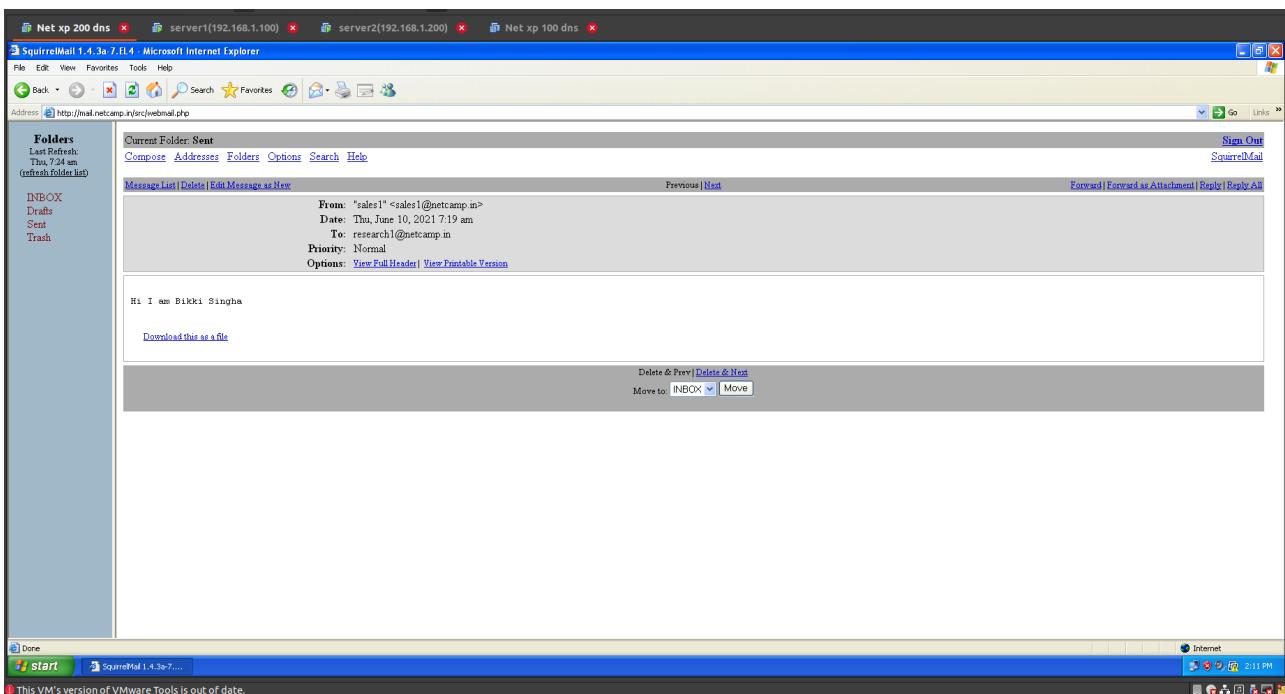


Now one by one login and create their mail address, and send mail.





Successfully mail send
Mail from sales1@netcamp.in to research1@netcamp.in



Partitions on Local Disks

If we want to keep different file systems, we need to partition the data. Partitioning allows the use of different filesystems to be installed for different kinds of files.

Separating user data from system data can prevent the system partition from becoming full and rendering the system unusable. There can be maximum 4 primary partition in hard disk. Post that we can do extended and logical partitioning.

For partitioning, we need login in the server as root and then give the command “fdisk/dev/sda”.

After that we need to press m for help, n for creating a new partition and finally w to write table to disk as shown in the photo below-

```
root@netcamp-server:~  
btkki@btkki:~$ telnet 192.168.1.200  
Trying 192.168.1.200...  
Connected to 192.168.1.200.  
Escape character is '^]'.  
Certificate in Network Management and Ethical Hacking with Web Development  
www.netcamp.in  
santu@netcamp.in  
helpdesk@netcamp.in  
093310 90003  
login: netcamp  
Password:  
Last login: Wed Jun 2 22:42:30 from 192.168.1.13  
Welcome to Netcamp Class  
[netcamp@netcamp-server ~]$ su -  
Password:  
[root@netcamp-server ~]# fdisk -l  
  
Disk /dev/sda: 21.4 GB, 21474836480 bytes  
255 heads, 63 sectors/track, 2610 cylinders  
Units = cylinders of 16065 * 512 = 8225280 bytes  
  
Device Boot Start End Blocks Id System  
/dev/sda1 * 1 13 104391 83 Linux  
/dev/sda2 14 1288 10241437+ 83 Linux  
/dev/sda3 1289 1549 2096482+ 82 Linux swap  
[root@netcamp-server ~]# fdisk /dev/sda  
  
The number of cylinders for this disk is set to 2610.  
There is nothing wrong with that, but this is larger than 1024,  
and could in certain setups cause problems with:  
1) software that runs at boot time (e.g., old versions of LILO)  
2) booting and partitioning software from other OSs  
(e.g., DOS FDISK, OS/2 FDISK)  
  
Command (m for help): m  
Command action  
a toggle a bootable flag  
b edit bsd disklabel  
c toggle the dos compatibility flag  
d delete a partition  
l list known partition types  
m print this menu  
n add a new partition  
o create a new empty DOS partition table  
p print the partition table  
q quit without saving changes  
s create a new empty Sun disklabel  
t change a partition's system id  
u change display/entry units  
v verify the partition table  
w write table to disk and exit  
x extra functionality (experts only)  
  
Command (m for help): n  
Command action  
e extended
```

```

root@netcamp-server:~#
Disk /dev/sda: 21.4 GB, 21474836480 bytes
255 heads, 63 sectors/track, 2610 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes

  Device Boot      Start        End    Blocks  Id  System
  /dev/sda1   *           1         13    104391  83  Linux
  /dev/sda2            14        1288   10241437+  83  Linux
  /dev/sda3        1289       1549   2096482+  82  Linux swap
[root@netcamp-server ~]# fdisk /dev/sda

The number of cylinders for this disk is set to 2610.
There is nothing wrong with that, but this is larger than 1024,
and could in certain setups cause problems with:
 1) software that runs at boot time (e.g., old versions of LILO)
 2) booting and partitioning software from other OSs
  (e.g., DOS FDISK, OS/2 FDISK)

Command (m for help): m
Command action
  a  toggle a bootable flag
  b  edit bsd disklabel
  c  toggle the dos compatibility flag
  d  delete a partition
  l  list known partition types
  m  print this menu
  n  add a new partition
  o  create a new empty DOS partition table
  p  print the partition table
  q  quit without saving changes
  s  create a new empty Sun disklabel
  t  change a partition's system id
  u  change display/entry units
  v  verify the partition table
  w  write table to disk and exit
  x  extra functionality (experts only)

Command (m for help): n
Command action
  e  extended
      p  primary partition (1-4)
p
Selected partition 4
First cylinder (1550-2610, default 1550): 1550
Last cylinder or +size or +sizeM or +sizeK (1550-2610, default 2610): 2610

Command (m for help): w
The partition table has been altered!

Calling ioctl() to re-read partition table.

WARNING: Re-reading the partition table failed with error 16: Device or resource busy.
The kernel still uses the old table.
The new table will be used at the next reboot.
Syncing disks.
[root@netcamp-server ~]# init 6
[root@netcamp-server ~]# 

```

After that we need to boot the server by command “init 6”.

Then we need to move to the webmin of the server and go to Hardware menu. We need to go on “Partition on local disk” and create the filesystem.

Version 1.330 on netcamp-server (Redhat Enterprise Linux 4ES)

Webmin System Servers Networking Hardware Cluster Others

CD Burner GRUB Boot Loader Linux RAID Logical Volume Management

Partitions on Local Disks Printer Administration SMART Drive Status System Time

Voicemail Server

Logout

Webmin Index [Search Docs..](#)

Partition Manager

Disk		Partitions					
No.	Type	Extent	Start	End	Use	Free	
1	Linux	1	1	13	/boot	86 %	
2	Linux	14	1288	1289	/	76 %	
3	Linux swap	1289	1549	1550	swap		
4	Linux	1550	2610				

[Return to index](#)

In create filesystem select New Linux Native(ext3)

Webmin Index [Module Index](#)

Edit Partition

Partition Details		Device file	
Location	SCSI device A partition 4	Type	/dev/sda4
Type	Linux	Extent	1550 - 2610 of 2610
Status	Not in use	Size	8323 MB
Partition label			
Save Delete			
<p>Create Filesystem: <input type="button" value="Linux Native (ext2)"/> Builds a new filesystem of the selected type on this partition, permanently erasing any existing files. You must do this after creating a new partition or changing an existing one.</p> <p>Mount Partition On: <input type="button" value="ext2"/> as <input type="button" value="New Linux Native (ext3)"/> Mount this partition on new directory on your system, so that it can be used to store files. A filesystem must have been already created on the partition.</p>			

[Return to index](#)

Disk and Network Filesystems

```
bikki@bikki:~$ telnet 192.168.1.200
Trying 192.168.1.200...
Connected to 192.168.1.200.
Escape character is '^]'.
Certificate in Network Management and Ethical Hacking with Web Development
www.netcamp.in
santu@netcamp.in
helpdesk@netcamp.in
093310 90003
login: netcamp
Password:
Last login: Wed Jun  2 22:49:48 from 192.168.1.13
Welcome to Netcamp Class
[netcamp@netcamp-server ~]$ su -
Password:
[root@netcamp-server ~]# cd /
[root@netcamp-server /]# mkdir chairman
[root@netcamp-server /]# pwd
/
[root@netcamp-server /]# ls -ld chairman
drwxr-xr-x 2 root root 4096 Jun  2 23:21 chairman
[root@netcamp-server /]# cd chairman
[root@netcamp-server chairman]#
```

192.168.1.200:10000/mount/index.cgi

Disk and Network Filesystems

Location	In use?	Permanent?
Partition labelled /	Yes	Yes
Partition labelled /boot	Yes	Yes
none	Yes	Yes
none	Yes	Yes
proc	Yes	Yes
none	Yes	Yes
Partition labelled SWAP-sda3	No	Yes
IDE device C	No	Yes
Floppy disk 0	No	Yes
usbfs	Yes	No
none	Yes	No
sunrpc	Yes	No
SCSI device A partition 3	Yes	No

Add mount | Type: New Linux Native Filesystem (ext3)

Mounted as: / (Root filesystem)

Available Options:

- Apple Filesystem (hfs)
- Common Internet Filesystem (cifs)
- ISO9660 CD-ROM (iso9660)
- Linux Native Filesystem (ext2)
- Linux Native Filesystem (ext3)
- Linux on top of MS-DOS Filesystem (umsdos)
- Loopback Filesystem (bind)
- MS-DOS Filesystem (msdos)
- Minix Filesystem (minix)
- Network Filesystem (nfs)
- Network Filesystem v4 (nfs4)
- New Automounter Filesystem (autofs)
- New Linux Native Filesystem (ext3)
- OS2 Filesystem (hpfs)
- Old EXT Linux Filesystem (ext)
- Old XIAFS Linux Filesystem (xiafs)
- RAM Disk (tmpfs)
- Reiser Filesystem (reiserfs)
- System V Filesystem (sysv)
- Virtual Memory (swap)
- Windows Filesystem (vfat)

Return to index

Our partitioning part is now completed. For applying quota we need to first partition the server.

Quota is like a restriction on a user. Quota can be both soft limit and hard limit. In soft limit, it warns the user that they are close to the exhaustion limit. Hard limit is the final limit after which they can't proceed. Quota can be applied both on data and files. Data/files could be used in a limit after quota is applied to it.

Firstly, we need to mount our file to the newly created partition like shown below-

Create Mount

Directory of /

bin	4 kB	01/Jun/2021	11:21
boot	1 kB	10/Feb/2015	13:52
chairman	4 kB	02/Jun/2021	23:21
dev	5 kB	02/Jun/2021	23:05
etc	12 kB	02/Jun/2021	23:05
home	4 kB	02/Jun/2021	10:37
initrd	4 kB	12/Aug/2004	22:32
lib	4 kB	01/Jun/2021	11:20

Mount at boot: Save Don't save
 Don't mount
 Check First Check Second
Disk 0
Labelled /boot (SCSI device A partition 1)
Ok /

Mount Options

Common mount options

Read-only? No
 Allow device files? Yes No
 Disallow setuid programs? Yes No

Buffer writes to filesystem? Yes No
 Allow execution of binaries? Yes No
 Allow users to mount this filesystem? Yes No

ext2/ext3 specific options

Include reserved blocks in filesystem size? Yes No
 Files inherit GID of parent directory? Yes No
 Reserve space for user Yes No

Action on error: Default No
Use Quotas? Yes No
Reserve space for group Yes No

[Create](#)

[Return to filesystems list](#)

New Filesystem

Executing command `mkfs -t ext3 /dev/sda4 ..`

```
mkfs 1.35 (28-Feb-2004)
max blocks 2181754880, rsv_groups = 66582, rsv_gdb = 520
Filesystem label=
OS type:
Block size=4096 (log=2)
Fragment size=4096 (log=2)
1066580 inodes, 2130620 blocks
106531 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=2185232384
64 block groups
32768 blocks per group, 32768 fragments per group
16160 inodes per group
Superblock backups stored on blocks:
 32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632
Writing inode tables: done
inode,i blocks = 37448, i_size = 4243456
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done

This filesystem will be automatically checked every 29 mounts or
180 days, whichever comes first. Use tune2fs -c or -i to override.

.. command complete.
```

[Return to disk list](#)

Disk and Network Filesystems

Add mount: Type: Apple Filesystem (hfs)

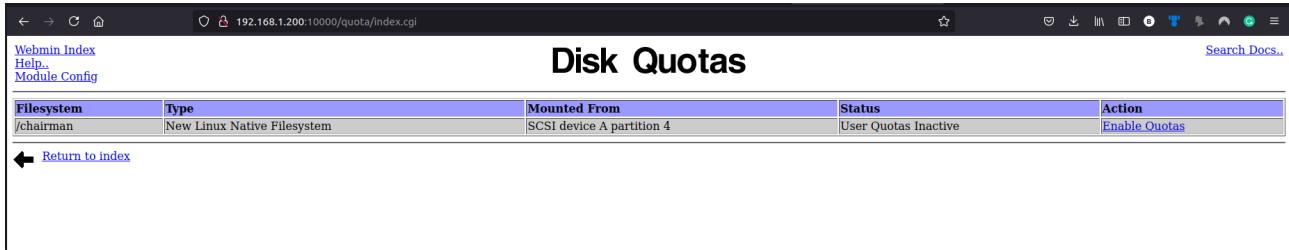
Mounted as	Type	Location	In use?	Permanent?
/ (Root filesystem)	New Linux Native Filesystem (ext3)	Partition labelled /	Yes	Yes
/boot	New Linux Native Filesystem (ext3)	Partition labelled /boot	Yes	Yes
/dev/pts	PTS Filesystem (devpts)	none	Yes	Yes
/dev/shm	RAM Disk (tmpfs)	none	Yes	Yes
/proc	Kernel Filesystem (proc)	proc	Yes	Yes
/sys	SYSFS	none	Yes	Yes
Virtual Memory	Virtual Memory (swap)	Partition labelled SWAP-sda3	No	Yes
/media/cdrecorder	Unknown Type	IDE device C	No	Yes
/media/floppy	Unknown Type	Floppy disk 0	No	Yes
/chairman	New Linux Native Filesystem (ext3)	SCSI device A partition 4	Yes	Yes
/proc/bus/usb	USBFS	usbfs	Yes	No
... c/sys/fs/binfmt_misc	BINfmt MISC	none	Yes	No
... r/lib/nfs/rpc_pipefs	RPC_PIPEFS	sunrpc	Yes	No
Virtual Memory	Virtual Memory (swap)	SCSI device A partition 3	Yes	No

Add mount: Type: Apple Filesystem (hfs)

[Return to index](#)

Disk Quota Management

First enable quota then click on edit user quota and set quota.

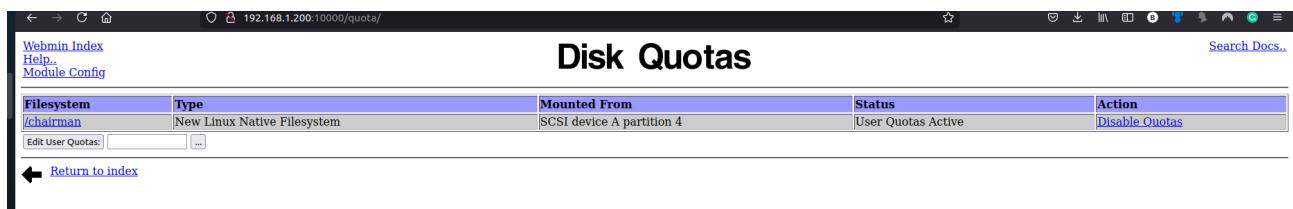


Webmin Index Help... Module Config

Disk Quotas

Filesystem	Type	Mounted From	Status	Action
/chairman	New Linux Native Filesystem	SCSI device A partition 4	User Quotas Inactive	Enable Quotas

[Return to index](#)



Webmin Index Help... Module Config

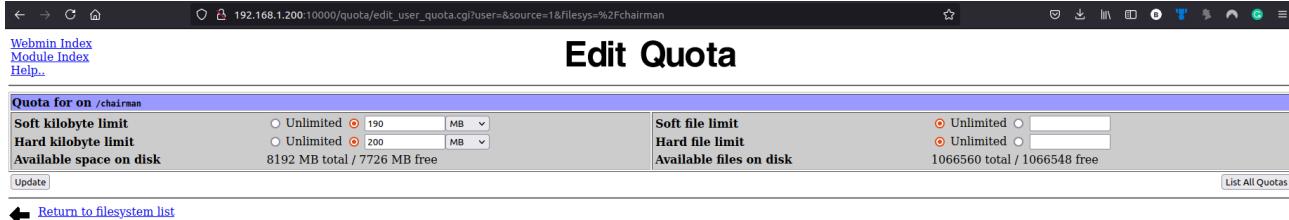
Disk Quotas

Filesystem	Type	Mounted From	Status	Action
/chairman	New Linux Native Filesystem	SCSI device A partition 4	User Quotas Active	Disable Quotas

[Edit User Quotas:](#) [...](#)

[Return to index](#)

Set Softlimit 190MB and Hardlimit 200MB



Webmin Index Module Index Help...

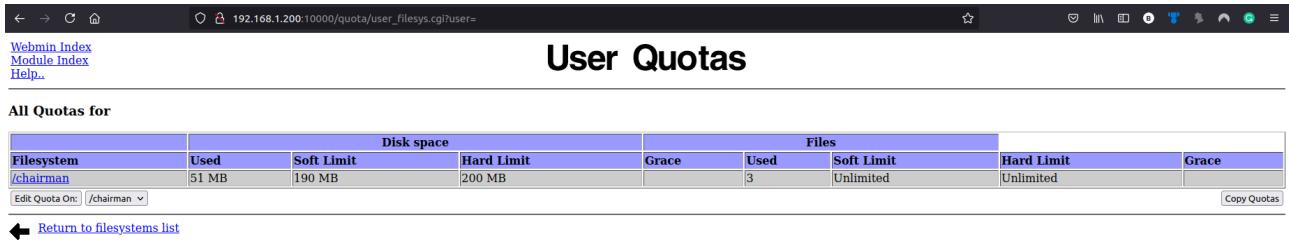
Edit Quota

Quota for on /chairman

Soft kilobyte limit	<input type="radio"/> Unlimited <input checked="" type="radio"/> 190 MB	Soft file limit	<input type="radio"/> Unlimited <input checked="" type="radio"/>
Hard kilobyte limit	<input type="radio"/> Unlimited <input checked="" type="radio"/> 200 MB	Hard file limit	<input checked="" type="radio"/> Unlimited <input type="radio"/>
Available space on disk	8192 MB total / 7726 MB free	Available files on disk	1066560 total / 1066548 free

[Update](#) [List All Quotas](#)

[Return to filesystem list](#)



Webmin Index Module Index Help...

User Quotas

All Quotas for

Filesystem	Disk space			Files			
	Used	Soft Limit	Hard Limit	Grace	Used	Soft Limit	Hard Limit
/chairman	51 MB	190 MB	200 MB		3	Unlimited	Unlimited

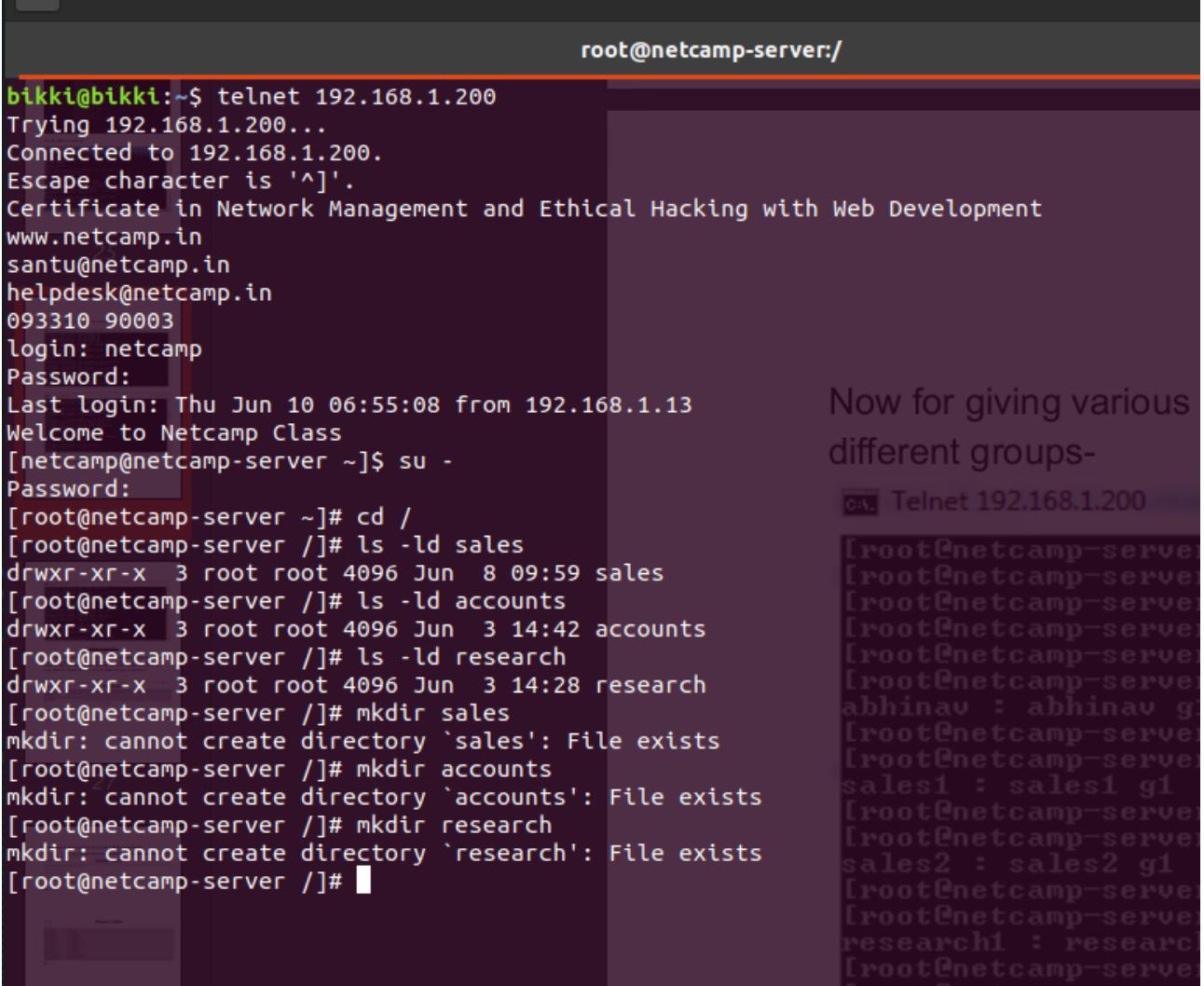
[Edit Quota On:](#) [/chairman](#) [Copy Quotas](#)

[Return to filesystems list](#)

Samba Windows File Sharing

For secure file transfer from windows to linux, we use SAMBA here. Firstly, we need to set permissions of the folder using linux as done previously. Then we were required to open Webmin and go to Samba Windows File sharing and do the following as shown in the image below. We have selected the file to be shared and given a share name.

Then the folders were added-



root@netcamp-server:/

```
bikki@bikki:~$ telnet 192.168.1.200
Trying 192.168.1.200...
Connected to 192.168.1.200.
Escape character is '^]'.
Certificate in Network Management and Ethical Hacking with Web Development
www.netcamp.in
santu@netcamp.in
helpdesk@netcamp.in
093310 90003
login: netcamp
Password:
Last login: Thu Jun 10 06:55:08 from 192.168.1.13
Welcome to Netcamp Class
[netcamp@netcamp-server ~]$ su -
Password:
[root@netcamp-server ~]# cd /
[root@netcamp-server /]# ls -ld sales
drwxr-xr-x 3 root root 4096 Jun  8 09:59 sales
[root@netcamp-server /]# ls -ld accounts
drwxr-xr-x 3 root root 4096 Jun  3 14:42 accounts
[root@netcamp-server /]# ls -ld research
drwxr-xr-x 3 root root 4096 Jun  3 14:28 research
[root@netcamp-server /]# mkdir sales
mkdir: cannot create directory `sales': File exists
[root@netcamp-server /]# mkdir accounts
mkdir: cannot create directory `accounts': File exists
[root@netcamp-server /]# mkdir research
mkdir: cannot create directory `research': File exists
[root@netcamp-server /]#
```

Now for giving various different groups-

```
[root@netcamp-server ~]# telnet 192.168.1.200
[netcamp@netcamp-server ~]$ abhinav : abhinav g1
[netcamp@netcamp-server ~]$ sales1 : sales1 g1
[netcamp@netcamp-server ~]$ sales2 : sales2 g1
[netcamp@netcamp-server ~]$ research1 : research1 g1
[netcamp@netcamp-server ~]$
```

```
[+] root@netcamp-server:~# ls -l
total 4
drwxr-xr-x 3 root root 4096 Jun  3 14:25 data
[root@netcamp-server sales]# cd data
[root@netcamp-server data]# ls -l
total 4
drwxr-xr-x 2 root root 4096 Jun  3 14:25 driver
[root@netcamp-server data]# cd ../..
[root@netcamp-server /]# pwd
/
[root@netcamp-server /]# cd research
[root@netcamp-server research]# mkdir -p data/driver
[root@netcamp-server research]# ls -l
total 4
drwxr-xr-x 3 root root 4096 Jun  3 14:28 data
[root@netcamp-server research]# cd data
[root@netcamp-server data]# ls -l
total 4
drwxr-xr-x 2 root root 4096 Jun  3 14:28 driver
[root@netcamp-server data]# cd ../..
[root@netcamp-server /]# cd accounts
[root@netcamp-server accounts]# mkdir -p data/driver
[root@netcamp-server accounts]# ls -l
total 4
drwxr-xr-x 3 root root 4096 Jun  3 14:42 data
[root@netcamp-server accounts]# cd data
[root@netcamp-server data]# ls -l
total 4
drwxr-xr-x 2 root root 4096 Jun  3 14:42 driver
[root@netcamp-server data]# cd ../..
[root@netcamp-server /]# groupadd g1
[root@netcamp-server /]# groupadd g2
[root@netcamp-server /]# groupadd g3
[root@netcamp-server /]# groupadd g4
[root@netcamp-server /]# usermod -G g1,g2,g3,g4 bikki
[root@netcamp-server /]# groups bikki
bikki : bikki g1 g2 g3 g4
[root@netcamp-server /]# usermod -G g1 sales1
[root@netcamp-server /]# groups sales1
sales1 : sales1 g1
[root@netcamp-server /]# usermod -G g1 sales2
[root@netcamp-server /]# groups sales2
sales2 : sales2 g1
[root@netcamp-server /]# usermod -G g2 research1
[root@netcamp-server /]# groups research1
research1 : research1 g2
[root@netcamp-server /]# usermod -G g2 research2
[root@netcamp-server /]# groups research2
research2 : research2 g2
[root@netcamp-server /]# usermod -G g3 accounts1
[root@netcamp-server /]# groups accounts1
accounts1 : accounts1 g3
[root@netcamp-server /]# usermod -G g3 accounts2
[root@netcamp-server /]# groups accounts2
accounts2 : accounts2 g3
[root@netcamp-server /]# 
```

Now for giving various accesses to the users according to problem, we needed to make different groups-

```
[+] root@netcamp-server:/accounts/data
[root@netcamp-server /]# groups research1
research1 : research1 g2
[root@netcamp-server /]# usermod -G g2 research2
[root@netcamp-server /]# groups research2
research2 : research2 g2
[root@netcamp-server /]# usermod -G g3 accounts1
[root@netcamp-server /]# groups accounts1
accounts1 : accounts1 g3
[root@netcamp-server /]# usermod -G g3 accounts2
[root@netcamp-server /]# groups accounts2
accounts2 : accounts2 g3
[root@netcamp-server /]# mkdir -p data/driver
[root@netcamp-server /]# cd sales
[root@netcamp-server sales]# chmod 770 data
[root@netcamp-server sales]# ls -ld data
drwxrwx--- 3 root root 4096 Jun 3 14:25 data
[root@netcamp-server sales]# chgrp g1 data
[root@netcamp-server sales]# ls -l
total 4
drwxrwx--- 3 root g1 4096 Jun 3 14:25 data
[root@netcamp-server sales]# cd data
[root@netcamp-server data]# chmod 775 driver
[root@netcamp-server data]# ls -l
total 4
drwxrwxr-x 2 root root 4096 Jun 3 14:25 driver
[root@netcamp-server data]# chgrp g4 driver
[root@netcamp-server data]# ls -l
total 4
drwxrwxr-x 2 root g4 4096 Jun 3 14:25 driver
[root@netcamp-server data]# cd ../..
[root@netcamp-server /]# cd research
[root@netcamp-server research]# chmod 770 data
[root@netcamp-server research]# chgrp g2 data
[root@netcamp-server research]# ls -l
total 4
drwxrwx--- 3 root g2 4096 Jun 3 14:28 data
[root@netcamp-server research]# cd data
[root@netcamp-server data]# chgrp g4 driver
[root@netcamp-server data]# chmod 775 driver
[root@netcamp-server data]# ls -l
total 4
drwxrwxr-x 2 root g4 4096 Jun 3 14:28 driver
[root@netcamp-server data]# cd ../..
[root@netcamp-server /]# cd accounts
[root@netcamp-server accounts]# chgrp g3 data
[root@netcamp-server accounts]# chmod 770 data
[root@netcamp-server accounts]# ls -l
total 4
drwxrwx--- 3 root g3 4096 Jun 3 14:42 data
[root@netcamp-server accounts]# cd data
[root@netcamp-server data]# chgrp g4 driver
[root@netcamp-server data]# chmod 775 driver
[root@netcamp-server data]# ls -l
total 4
drwxrwxr-x 2 root g4 4096 Jun 3 14:42 driver
[root@netcamp-server data]# ]
```

Atlast we needed to change the permissions for making everything successful-

Webmin Index Module Config

Samba Windows File Sharing

Samba version 3.01014

Select all | Insert selection | Create a new file share | Create a new printer share | Create a new copy | View all connections.

Share Name	Path	Security
<input type="checkbox"/> homes	All Home Directories	Read/write to all known users
<input type="checkbox"/> printers	All Printers	Printable to all known users

Select all | Insert selection | Create a new file share | Create a new printer share | Create a new copy | View all connections.

[Delete Selected Shares](#)

Global Configuration

[!\[\]\(4e9fc7e73263d91aef1bcd3f5bc463ad_img.jpg\) Unix Networking](#) [!\[\]\(3e6467a616b95d882be4fa9b55ba5e70_img.jpg\) Windows Networking](#) [!\[\]\(1e9851fd217eb0511ec1424a41c34d85_img.jpg\) Authentication](#) [!\[\]\(fc0f2685b55edc30551e227637950178_img.jpg\) Windows to Unix Printing](#)

[!\[\]\(0bbb4856f764e1911753ec5bba775182_img.jpg\) Miscellaneous Options](#) [!\[\]\(e0e08e599118cc43a691288ea344b6e3_img.jpg\) Winbind Options](#) [!\[\]\(e54ac33e412a9384cbeedc4735946d48_img.jpg\) File Share Defaults](#) [!\[\]\(23cf182ca2b9851c13d182b9ccea832a_img.jpg\) Printer Share Defaults](#)

[!\[\]\(251ecad89910572f1d827b0b860da27f_img.jpg\) Edit Config File](#)

Samba Users

[!\[\]\(1fc591136dd1251cfb4df9447c5b4517_img.jpg\) Edit Samba users and passwords](#) [!\[\]\(4536bff76fb04ed536a7c941a58a829c_img.jpg\) Convert Unix users to Samba users](#) [!\[\]\(b0809918247ae2d36114afc5e083dbc4_img.jpg\) Configure automatic Unix and Samba user synchronisation](#)

[!\[\]\(1bec75728a894cc3dcf37d100472c6e9_img.jpg\) Add and edit Samba groups](#) [!\[\]\(a5a5536d5eb2fd4bb5ec1c0eb064cc9e_img.jpg\) Configure automatic Unix and Samba group synchronisation](#) [!\[\]\(95e3ce0ca1f37e104146df619490bdf7_img.jpg\) Bind to Domain](#)

[Start Samba Servers](#) The Samba servers do not appear to be running on your system. This means that the shares listed above will not be accessible to other computers.

[Return to index](#)

In create file share write share file name and select it's directory

192.168.1.200:10000/chooser.cgi?ad=1

200:10000/samba/edit_fshare.cgi

Create File Share

Home Directories Share

Create with owner

Browseable? Yes No

[Ok](#) [/sales](#)

[Return to share list](#)

192.168.1.200:10000/samba/edit_fshare.cgi

Create File Share

Share Information

Share name sale Home Directories Share

Directory to share

Automatically create directory? Yes No Create with owner

Available? Yes No Browseable? Yes No

Share Comment

[Create](#)

[Return to share list](#)

Webmin Index Module Config

Samba Windows File Sharing

Samba version 3.0.1014

Select all. | Invert selection. | Create a new file share. | Create a new printer share. | Create a new copy. | View all connections. | Delete Selected Shares

Share Name	Path	Security
<input type="checkbox"/> homes	All Home Directories	Read/write to all known users
<input type="checkbox"/> printers	All Printers	Printable to all known users
<input type="checkbox"/> sale	/sales	Read only to all known users

Global Configuration

Unix Networking | Windows Networking | Authentication | Windows to Unix Printing

Miscellaneous Options | Winbind Options | File Share Defaults | Printer Share Defaults

Edit Config File

Samba Users

Edit Samba users and passwords | Convert Unix users to Samba users | Configure automatic Unix and Samba user synchronisation

Add and edit Samba groups | Configure automatic Unix and Samba group synchronisation | Bind to Domain

Start Samba Servers

The Samba servers do not appear to be running on your system. This means that the shares listed above will not be accessible to other computers.

[Return to index](#)

Then we need to convert our Unix users to allow SAMBA sharing for them.

Webmin Index Module Index

Convert Users

This form allows you to synchronize the Unix and Samba user list. When Samba is using [encrypted passwords](#), a separate list of users and passwords is used instead of the system user list. The list of users not to convert can contain usernames, UIDs, group names prefixed with an @, or UID ranges like 500-1000 or 500-.

Don't convert or remove these users: -499

Update existing Samba users from their Unix details

Add new Samba users from the Unix user list

Delete Samba users who do not exist under Unix

For newly created users, set the password to: No password Account locked Use this password:

[Convert Users](#)

[Return to share list](#)

Webmin Index Module Index

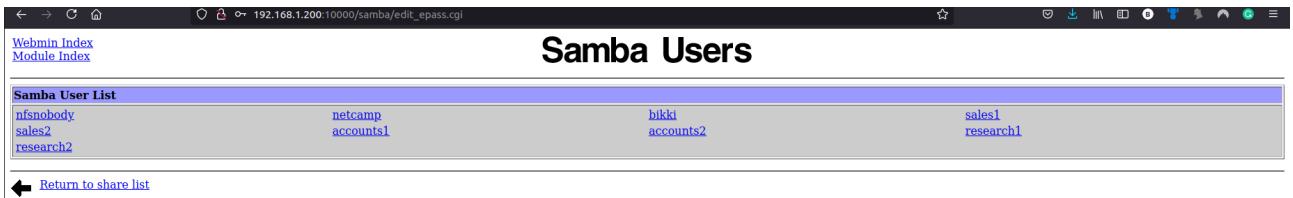
Convert Users

Converting Unix users...

```
root being skipped
daemon being skipped
lp being skipped
shutdown being skipped
mail being skipped
uucp being skipped
games being skipped
ftp being skipped
dbus being skipped
nscd being skipped
haldaemon being skipped
sshd being skipped
rpcuser being skipped
mailnull being skipped
pcap being skipped
squid being skipped
xfs being skipped
gdm being skipped
dovecot being skipped
postgres being skipped
netcamp being added
sales1 being added
accounts1 being added
research1 being added
bin being skipped
adm being skipped
sync being skipped
halt being skipped
news being skipped
operator being skipped
gopher being skipped
nobody being skipped
vcsa being skipped
rpm being skipped
netdump being skipped
rpc being skipped
nfsnobody being added
smmsp being skipped
apache being skipped
webalizer being skipped
ntp being skipped
cyrus being skipped
mysql being skipped
named being skipped
bikki being added
sales2 being added
accounts2 being added
research2 being added
```

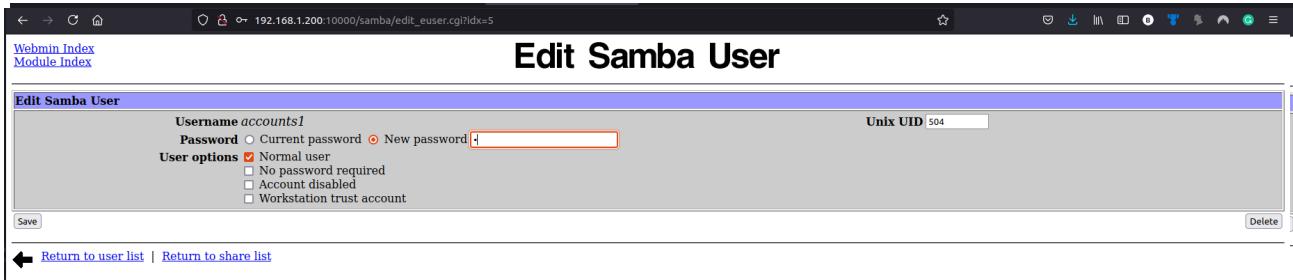
[Return to share list](#)

All added samba user's are listed here



Samba User List	netcamp	accounts1	bikki	accounts2	sales1	research1
nfobody						
sales2						
research2						

Then we need to edit the users and give the passwords same to the one used in linux account-



Now we need to allow the SAMBA users to write in linux by clicking on YES in writable else file won't be shared.



We need to start the SAMBA server on Webmin.

Webmin Index Module Config

Samba Windows File Sharing

Samba version 3.01014

Select all, | Invert selection, | Create a new file share, | Create a new printer share, | Create a new copy, | View all connections.

Share Name	Path	Security
homes	All Home Directories	Read/write to all known users
printers	All Printers	Printable to all known users
sales	/sales	Read only to all known users

Select all, | Invert selection, | Create a new file share, | Create a new printer share, | Create a new copy, | View all connections.

Delete Selected Shares

Global Configuration

- Unix Networking
- SMB
- Authentication
- Windows to Unix Printing
- Miscellaneous Options
- Winbind Options
- File Share Defaults
- Printer Share Defaults
- Edit Config File

Samba Users

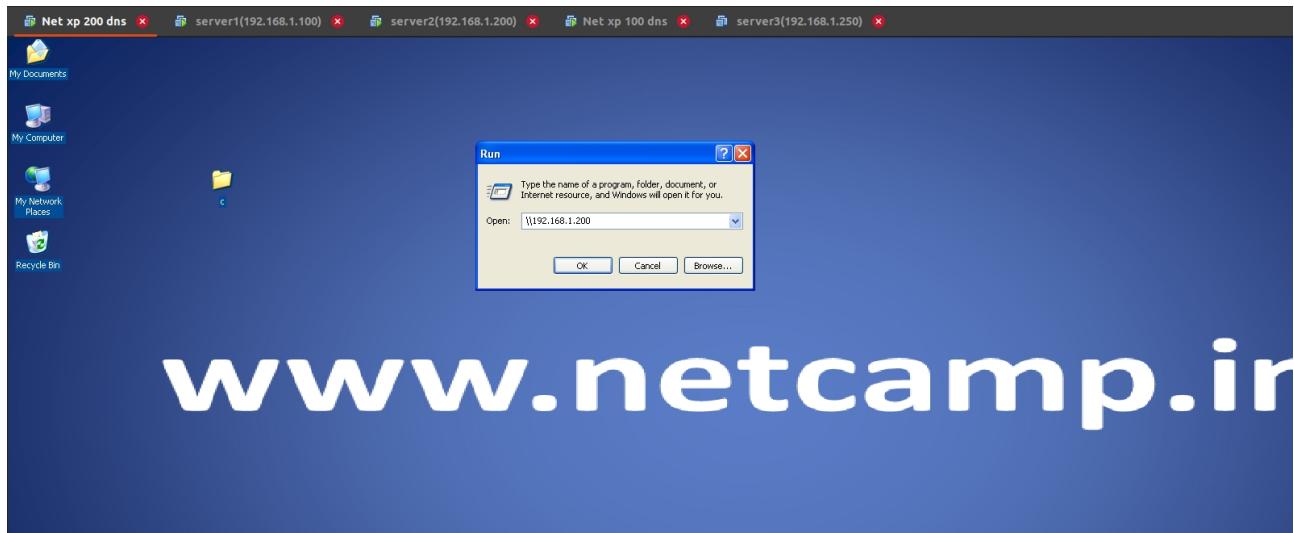
- Edit Samba users and passwords
- Convert Unix users to Samba users
- Configure automatic Unix and Samba user synchronisation
- Add and edit Samba groups
- Configure automatic Unix and Samba group synchronisation
- Bind to Domain

Start Samba Servers

The Samba servers do not appear to be running on your system. This means that the shares listed above will not be accessible to other computers.

[Return to index](#)

Now we need to go to XP and run \\192.168.1.200 on it as the SAMBA users are created on 200 server. A login popup would open like this-



Mail Logo Change

```
root@netcamp-server:/usr/share/squirrelmail/images
btkki@btkki:~$ telnet 192.168.1.200
Trying 192.168.1.200...
Connected to 192.168.1.200.
Escape character is '^]'.
Certificate in Network Management and Ethical Hacking with Web Development
www.netcamp.in
santu@netcamp.in
helpdesk@netcamp.in
093310 90003
login: netcamp
Password:
Last login: Tue Jun  8 07:37:50 from 192.168.1.13
Welcome to Netcamp Class
[netcamp@netcamp-server ~]$ su -
Password:
[root@netcamp-server ~]#
[root@netcamp-server ~]# ls
anaconda-ks.cfg  Desktop  install.log  install.log.syslog  z
[root@netcamp-server ~]# ls -l
total 80
-rw-r--r--  1 root root  1520 Feb 10  2015 anaconda-ks.cfg
drwxr-xr-x  2 root root  4096 Feb 10  2015 Desktop
-rw-r--r--  1 root root 47479 Feb 10  2015 install.log
-rw-r--r--  1 root root  5964 Feb 10  2015 install.log.syslog
drwxrwxrwx  2 root root  4096 Jun  4 03:40 z
[root@netcamp-server ~]# cd usr
-bash: cd: usr: No such file or directory
[root@netcamp-server ~]# ls -ld usr
ls: usr: No such file or directory
[root@netcamp-server ~]# pwd
/root
[root@netcamp-server ~]# cd home
-bash: cd: home: No such file or directory
[root@netcamp-server ~]# cd /
[root@netcamp-server /]# ls
accounts  chairman  home  lost+found  mnt  research  sbin  sys  usr
bin       dev       initrd  media      opt  root      selinux  tftpboot  var
boot      etc       lib     misc      proc  sales    srv      tmp
[root@netcamp-server /]# pwd
/
[root@netcamp-server /]# cd usr
[root@netcamp-server usr]# ls
bin  games  kerberos  libexec  sbin  src  X11R6
etc  include  lib      local  share  tmp
[root@netcamp-server usr]# cd share
[root@netcamp-server share]# ls
a2ps          libgnomeprint
aclocal        libgphoto2
anaconda      libxklavier
application-registry  locale
applications  magic
apps          magic.mime
aspell        man
authconfig    nc
autostart     metacity

```

```
[root@netcamp-server ~]# cd usr
[root@netcamp-server usr]# ls
bin games kerberos libexec sbin src X11R6
etc include lib local share tmp
[root@netcamp-server usr]# cd share
[root@netcamp-server share]# ls
a2ps libgnomeprint
aclocal libgphoto2
anaconda libxklavier
application-registry locale
applications magic
apps magic.mime
aspell man
authconfig mc
autostart metacity
awk mime
backgrounds mime-info
battstat_applet mimelnk
bluez-pin misc
comps rpage
comps-extras mysql
config nautilus
control-center nautilus-cd-burner
control-center-2.0 NetworkManagerInfo
cups NetworkManagerNotification
cyrus-imapd nmap
dbus-1 ognify
desktop-directories omf
desktop-menu-patches Omni
dict openldap
doc pear
eazel-engine pgsql
eggcups pilot-link
emacs pixmaps
empty pkgconfig
enscript printconf
eog psqlodbc
ethereal pygtk
eula rghb
evolution-data-server-1.0 rhn
festival rhpl
file samba
file-roller screen
firstboot scrollkeeper
fonts sendmail-cf
foomatic services
gdm servicetypes
gedit-2 setools
gen_util sgml
geyes snmp
ghostscript sounds
gimp-print spamassassin
gnome sql-bench
gnome-2.0 squid
gnome-about squirrelmail
gnome-kerberos ssl
.
```

```

root@netcamp-server:/usr/share/squirrelmail/images
groff titled Document 1 x
grub
gstreamer-properties
gswitchit
gthumb
gtk-2.0
gtksourceview-1.0
gweather
hal
hbwbrowser
hwdata
i18n
icons
idl
info
intltool
java
java-1.4.0
java-1.4.1
java-1.4.2
java-1.5.0
javadoc
java-ext
java-utils
kontrol-panel
krb5-auth-dialog
lftp
[root@netcamp-server share]# cd squirrelmail
[root@netcamp-server squirrelmail]# ls
class  functions  images  index.php  plugins  themes
config  help  include  locale  src
[root@netcamp-server squirrelmail]# cd images
[root@netcamp-server images]# ls
delitem.png  sec_remove_es_ES.png  sec_remove_pt_PT.png
down_pointer.png  sec_remove_fr_FR.png  sec_remove_ru_RU.png
draft.png  sec_remove_hr_HR.png  sec_remove_sl_SI.png
folder.png  sec_remove_hu_HU.png  sec_remove_sr_YU.png
inbox.png  sec_remove_id_ID.png  sec_remove_sv_SE.png
index.php  sec_remove_it_IT.png  sec_remove_tr_TR.png
minus.png  sec_remove_ja_JP.png  senti.png
plus.png  sec_remove_ko_KR.png  sm_logo.png
sec_remove_da_DK.png  sec_remove_lt_LT.png  sort_none.png
sec_remove_de_DE.png  sec_remove_nb_NO.png  up_pointer.png
sec_remove_el_GR.png  sec_remove_nl_NL.png
sec_remove_eng.png  sec_remove_nn_NO.png
[root@netcamp-server images]# chmod 777 images
chmod: cannot access 'images': No such file or directory
[root@netcamp-server images]# cd ..
[root@netcamp-server squirrelmail]# chmod 777 images
[root@netcamp-server squirrelmail]# ls -ld images
drwxrwxrwx  2 root root 4096 Feb 10 2015 images
[root@netcamp-server squirrelmail]# cd images
[root@netcamp-server images]# ls -ld sm_logo.png
-rw-r--r-- 1 root root 6801 Nov 20 2004 sm_logo.png
[root@netcamp-server images]# chmod 777 sm_logo.png
[root@netcamp-server images]# 

```

192.168.1.200:10000/samba/edit_fileshare.cgi?share=sqmail

Edit File Share

Share Information

Share name sqmail Home Directories Share
 Directory to share
 Available? Yes No Browseable? Yes No
 Share Comment

Other Share Options

 Security and Access Control  File Permissions  File Naming  Miscellaneous Options

[Save](#) [View Connections](#) [Delete](#)

[Return to share list](#)

192.168.1.200:10000/mailboxes/index.cgi

Read User Mail

Mail server: Sendmail

User mailboxes

accounts1	accounts2	adm	apache
bikki	bin	cyrus	daemon
dbus	dovecot	ftp	games
gdm	gopher	haldaemon	halt
lp	mail	mailnull	mysql
named	netcamp	netdump	news
msnobody	nobody	nsqd	ntp
operator	pcap	postgres	research1 (7221 bytes in 4)
research2	root (27 kB in 1)	rpc	rpcuser
rpm	sales1 (230 kB in 4)	sales2 (36 kB in 4)	shutdown
smmsp	squid	sshd	sync
uucp	vcsa	webalizer	xfs

[Read Mail in File:](#)

[Return to index](#)

192.168.1.200:10000/mailboxes/view_mail.cgi?user=research1&idx=7&folder=0

Read Email

User Email

Message 8 in /var/spool/mail/research1

[Delete](#) [Mark as:](#) [Read](#) [Forward](#) [Print](#) [Reply](#) [Reply to all](#) [Remove Attachments](#) [Deny Sender](#) [Report As Spam](#)

Mail headers

From	sales1@netcamp.in	View all headers
To	research1@netcamp.in	View raw message
Date	Thu, 10 Jun 2021 07:32:06 +0530 (IST)	
Subject		

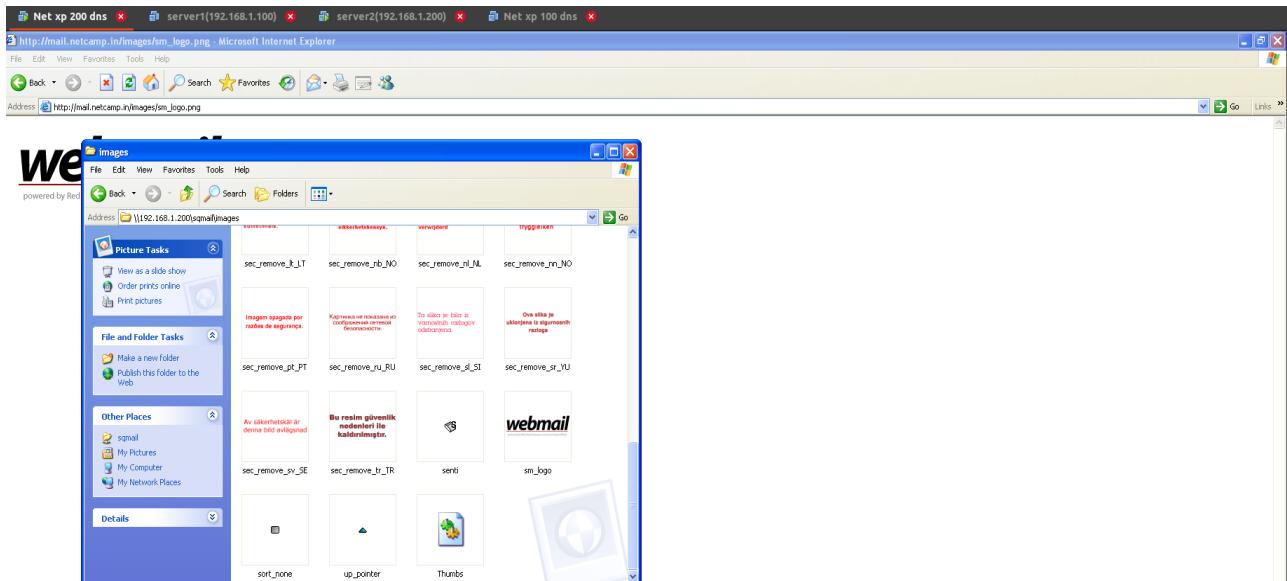
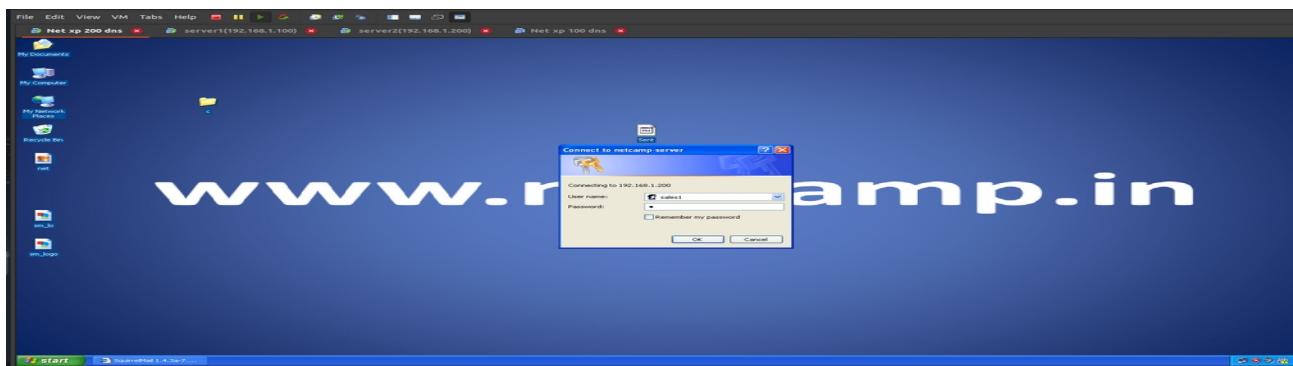
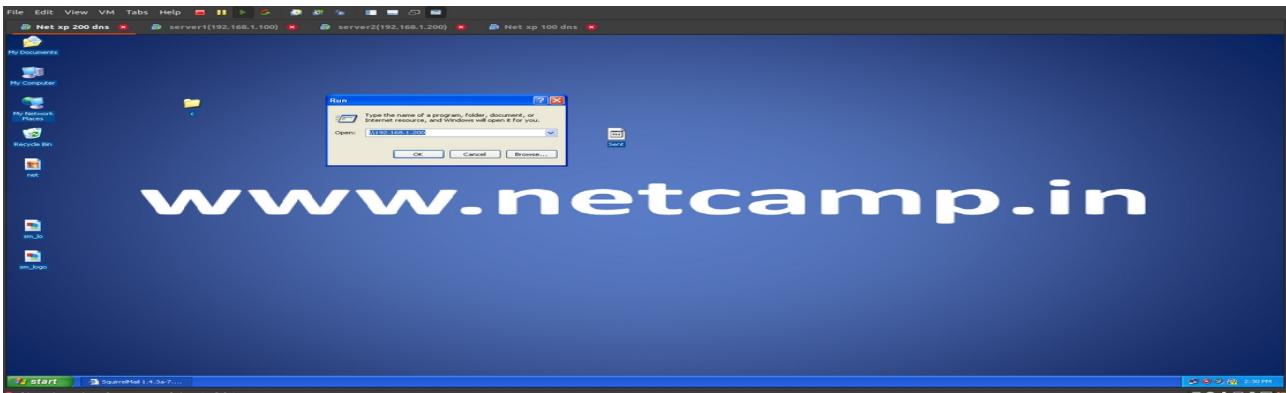
Attachments

 netcamp_logo.png
52 Kb

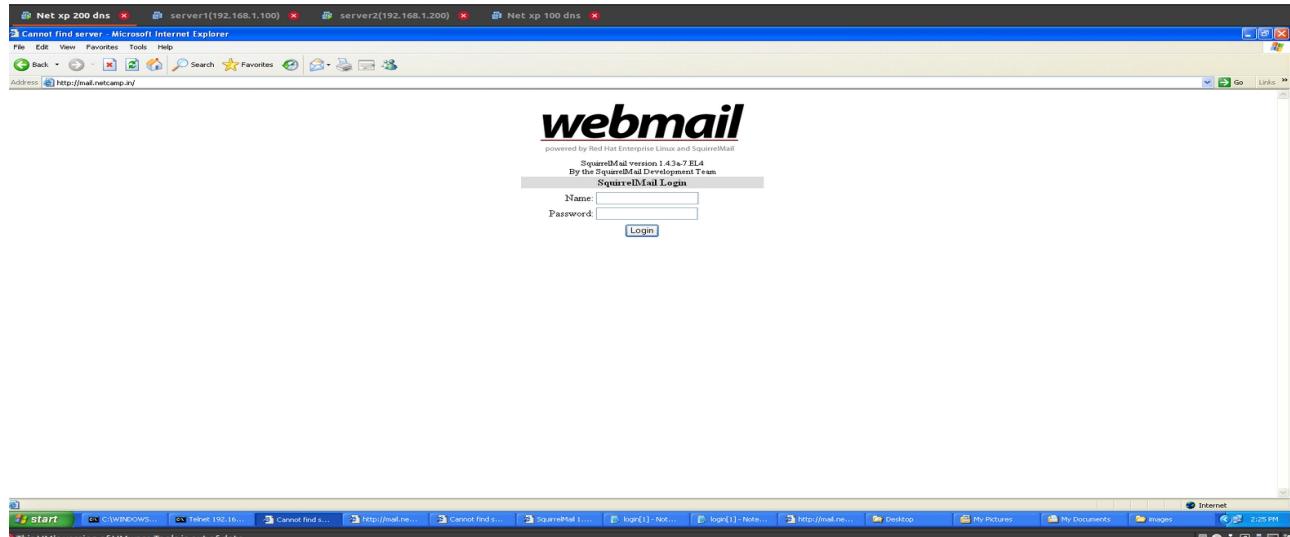
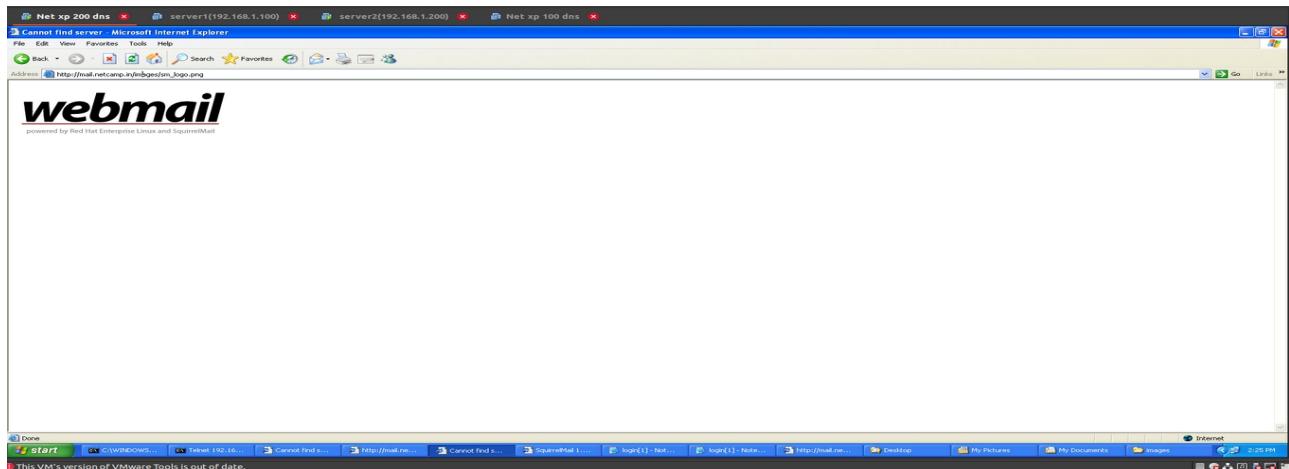
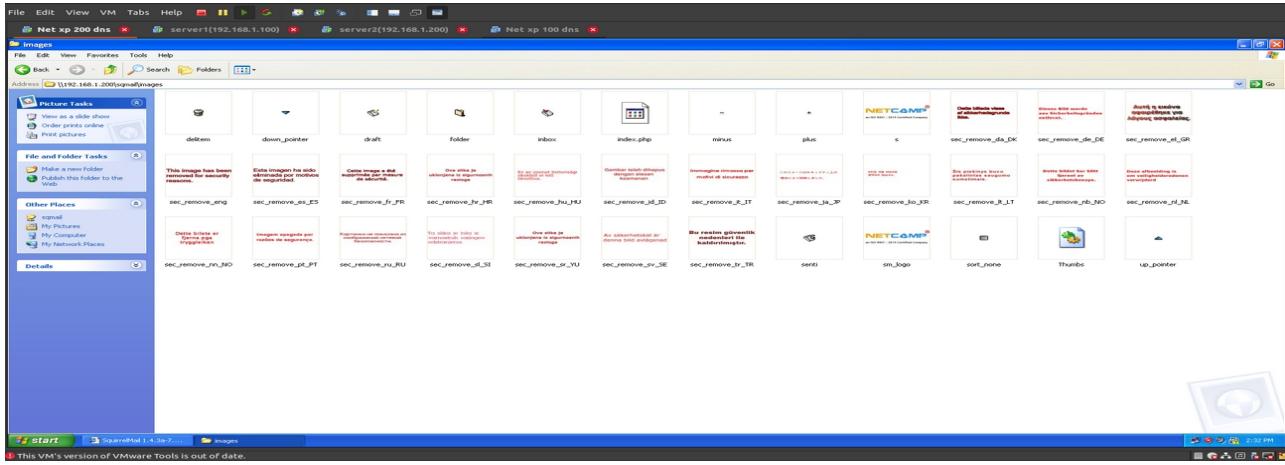
[Detach File](#) [to server file or directory:](#)

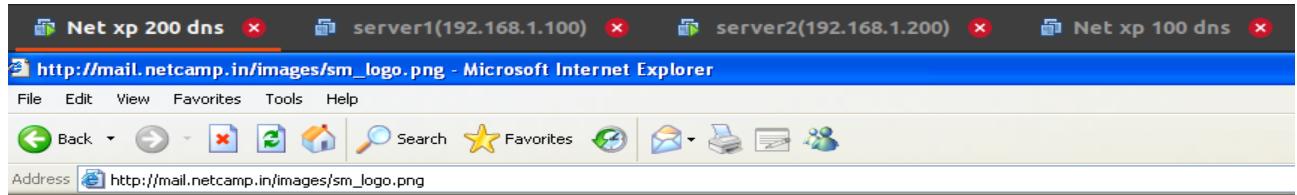
[Delete](#) [Mark as:](#) [Read](#) [Forward](#) [Print](#) [Reply](#) [Reply to all](#) [Remove Attachments](#) [Deny Sender](#) [Report As Spam](#)

[Return to user mailbox](#) | [Return to user list](#)



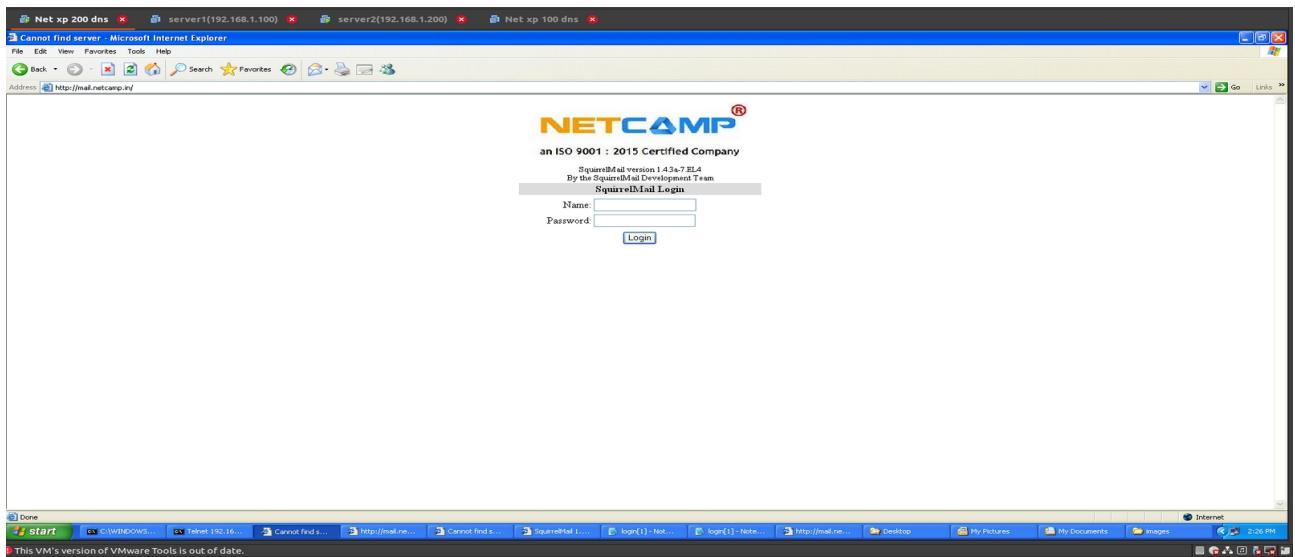
Set netcamp logo name in sm_logo and then (logo name should be in PNG format) Drag and drop webmil logo and netcamp logo.





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Now you can see here Webmail logo is replaced by Netcamp logo.



Linux Firewall

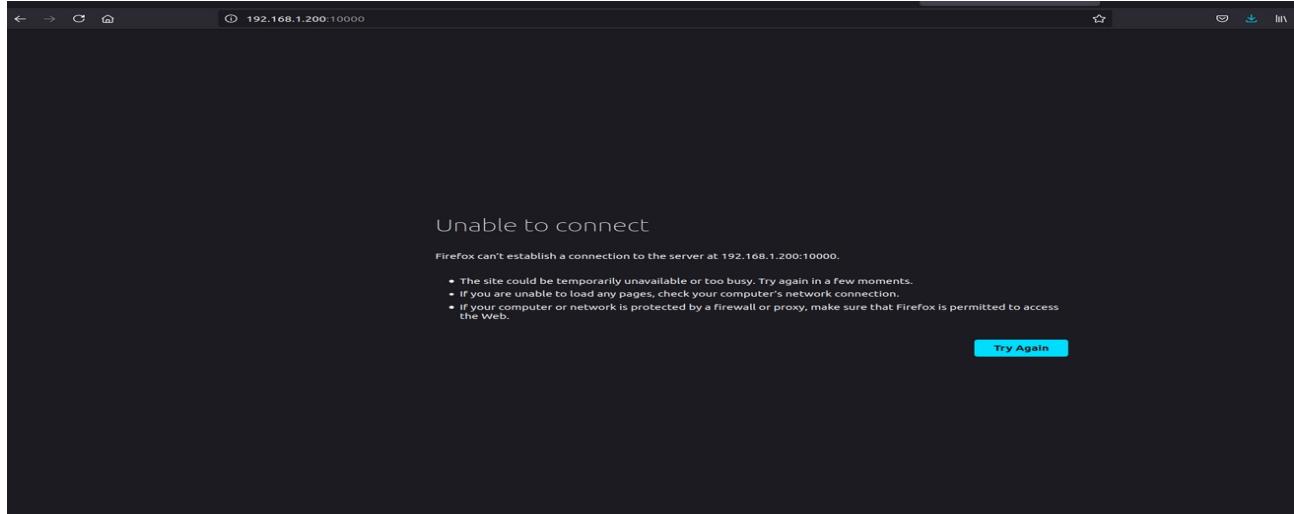
It is a set of rules and protocols by which we can block incoming packages from various IPs. Generally, this makes our important files secure as well. We can disallow a few IPs from entering and using the services. In the question, it was asked to disallow users from other networks to telnet, ftp etc. So for that we needed to write commands as root user in our server as shown below-

```
bikki@bikki:~$ telnet 192.168.1.200
Trying 192.168.1.200...
Connected to 192.168.1.200.
Escape character is '^]'.
Certificate in Network Management and Ethical Hacking with Web Development
www.netcamp.in
santu@netcamp.in
helpdesk@netcamp.in
093310 90003
login: netcamp
Password:
Last login: Thu Jun 10 08:23:47 from 192.168.1.13
Welcome to Netcamp Class
[netcamp@netcamp-server ~]$ su -
Password:
su: incorrect password
[netcamp@netcamp-server ~]$ su -
Password:
[root@netcamp-server ~]# iptables -F
[root@netcamp-server ~]# iptables -A INPUT -s 192.168.1.0/24 -p icmp --icmp-type echo-request -j REJECT
[root@netcamp-server ~]# service iptable save
iptable: unrecognized service
[root@netcamp-server ~]# service iptables save
Saving firewall rules to /etc/sysconfig/iptables: [ OK ]
[root@netcamp-server ~]# service iptables restart
Flushing firewall rules: [ OK ]
Setting chains to policy ACCEPT: filter [ OK ]
Unloading iptables modules: [ OK ]
Applying iptables firewall rules: [ OK ]
[root@netcamp-server ~]# iptables -A INPUT -s 192.168.1.0/24 -p tcp --dport 10000 -j REJECT
[root@netcamp-server ~]# iptables -A INPUT -s 192.168.1.0/24 -p tcp --dport 21 -j REJECT
[root@netcamp-server ~]# service iptables status
Table: filter
Chain INPUT (policy ACCEPT)
target     prot opt source          destination
REJECT    icmp --  192.168.1.0/24   0.0.0.0/0          icmp type 8 reject-with icmp-port-unreachable
REJECT    tcp   --  192.168.1.0/24   0.0.0.0/0          tcp dpt:10000 reject-with icmp-port-unreachable
REJECT    tcp   --  192.168.1.0/24   0.0.0.0/0          tcp dpt:21 reject-with icmp-port-unreachable

Chain FORWARD (policy ACCEPT)
target     prot opt source          destination

Chain OUTPUT (policy ACCEPT)
target     prot opt source          destination
```

Unable to access **webmin** because the port 10000 is block by firewall.

A screenshot of a terminal window with several tabs open at the top. The active tab shows the output of an 'nmap' scan on 'server2(192.168.1.200)'. The output is as follows:

```
Starting nmap 3.78 ( http://www.insecure.org/nmap/ ) at 2021-06-10 09:28 IST
Interesting ports on netcamp-server (127.0.0.1):
(The 1647 ports scanned but not shown below are in state: closed)
PORT      STATE SERVICE
23/tcp    open  telnet
25/tcp    open  smtp
53/tcp    open  domain
80/tcp    open  http
110/tcp   open  pop3
139/tcp   open  netbios-ssn
143/tcp   open  imap
443/tcp   open  https
445/tcp   open  microsoft-ds
953/tcp   open  rndc
993/tcp   open  imaps
995/tcp   open  pop3s
10000/tcp open  snet-sensor-mgmt

Nmap run completed -- 1 IP address (1 host up) scanned in 0.219 seconds
[root@netcamp-server ~]# service iptables stop
Flushing firewall rules: [ OK ]
Setting chains to policy ACCEPT: filter [ OK ]
Unloading iptables modules: [ OK ]
```

Here we blocked the **NA**(Network Address) by which we disallowed the local network from entering. Post this we only allowed our own server by giving our IP and using keyword 'accept' in place of 'reject' in the commands.

Now we can access.

```
[root@netcamp-server ~]# iptables -A INPUT -s 192.168.1.0/24 -p icmp --icmp-type echo-request -j ACCEPT
[root@netcamp-server ~]# service iptables save
Saving firewall rules to /etc/sysconfig/iptables: [ OK ]
[root@netcamp-server ~]# service iptables restart
Flushing firewall rules: [ OK ]
Setting chains to policy ACCEPT: filter [ OK ]
Unloading iptables modules: [ OK ]
Applying iptables firewall rules: [ OK ]
[root@netcamp-server ~]# iptables -A INPUT -s 192.168.1.0/24 -p tcp --dport 10000 -j ACCEPT
[root@netcamp-server ~]# iptables -A INPUT -s 192.168.1.0/24 -p tcp --dport 21 -j ACCEPT
[root@netcamp-server ~]# service iptables status
Table: filter
Chain INPUT (policy ACCEPT)
target     prot opt source          destination
REJECT    icmp --  192.168.1.0/24  0.0.0.0/0      icmp type 8 reject-with icmp-port-unreachable
REJECT    tcp   --  192.168.1.0/24  0.0.0.0/0      tcp dpt:10000 reject-with icmp-port-unreachable
REJECT    tcp   --  192.168.1.0/24  0.0.0.0/0      tcp dpt:21 reject-with icmp-port-unreachable
ACCEPT    icmp --  192.168.1.0/24  0.0.0.0/0      icmp type 8
ACCEPT    tcp   --  192.168.1.0/24  0.0.0.0/0      tcp dpt:10000
ACCEPT    tcp   --  192.168.1.0/24  0.0.0.0/0      tcp dpt:21

Chain FORWARD (policy ACCEPT)
target     prot opt source          destination

Chain OUTPUT (policy ACCEPT)
target     prot opt source          destination

[root@netcamp-server ~]# service iptables save
Saving firewall rules to /etc/sysconfig/iptables: [ OK ]
[root@netcamp-server ~]# service iptables restart
Flushing firewall rules: [ OK ]
Setting chains to policy ACCEPT: filter [ OK ]
Unloading iptables modules: [ OK ]
Applying iptables firewall rules: [ OK ]
[root@netcamp-server ~]# service iptables status
Table: filter
Chain INPUT (policy ACCEPT)
target     prot opt source          destination
REJECT    icmp --  192.168.1.0/24  0.0.0.0/0      icmp type 8 reject-with icmp-port-unreachable
REJECT    tcp   --  192.168.1.0/24  0.0.0.0/0      tcp dpt:10000 reject-with icmp-port-unreachable
REJECT    tcp   --  192.168.1.0/24  0.0.0.0/0      tcp dpt:21 reject-with icmp-port-unreachable
ACCEPT    icmp --  192.168.1.0/24  0.0.0.0/0      icmp type 8
ACCEPT    tcp   --  192.168.1.0/24  0.0.0.0/0      tcp dpt:10000
ACCEPT    tcp   --  192.168.1.0/24  0.0.0.0/0      tcp dpt:21

Chain FORWARD (policy ACCEPT)
target     prot opt source          destination

Chain OUTPUT (policy ACCEPT)
target     prot opt source          destination

[root@netcamp-server ~]# service iptables status
Firewall is stopped.
[root@netcamp-server ~]#
```

Now we have successfully completed the task given in the project.